Pollution Incident Response Management Plan

Boorowa Sewerage Treatment Plant
Table of Contents

1. Introduction .................................................................................................................................................. 3
1.1 Scope ...................................................................................................................................................... 3

2. Pollution Incident Response Management Plan......................................................................................... 3
2.1 Potential Incidents .................................................................................................................................. 3
2.2 Incident Response .................................................................................................................................... 4
2.3 Incident Investigation ............................................................................................................................. 5
2.4 Pre-emptive Measures ........................................................................................................................... 5
2.5 Training .................................................................................................................................................. 6

3. Responsibility ............................................................................................................................................. 7

4. References .................................................................................................................................................. 7

5. Dictionary .................................................................................................................................................. 7

6. Table of Amendments ............................................................................................................................... 7

7. Appendices ................................................................................................................................................ 7
7.1 Appendix 1 - Site Layout ....................................................................................................................... 8
7.2 Appendix 2 – Sewerage catchment ......................................................................................................... 9
7.3 Appendix 3 - Site Chemical Register .................................................................................................... 10
7.4 Appendix 4 - Personal Protective Equipment List ............................................................................... 10
7.5 Appendix 5 - Risk assessments and actions ......................................................................................... 11
7.6 Appendix 6 - Action plans to minimise harm ....................................................................................... 14
1. **Introduction**
This plan has been developed to document the processes required to prepare for and respond to pollution incidents for the Boorowa Sewerage Treatment Plant (STP) and associated reticulation network (EPA Licence No. 1678) and ensure that hazards to the environment, human health and safety are reduced, if not eliminated. It has been prepared in accordance with the requirements of the Protection of the Environment Operations Act 1997 and Protection of the Environment Operations (General) Regulation 2009.

1.1 **Scope**
This Pollution Incident Response Management Plan applies to Boorowa STP and associated reticulation network (EPA Licence No. 1678). For site plans, refer to Section 7.1 Appendix 1 - Site.

2. **Pollution Incident Response Management Plan**
The township of Boorowa is serviced by approximately 17km of sewer mains and 4 pump stations which transfers sewage to the Boorowa STP. Boorowa STP treats approximately 270kL of sewage daily in dry weather, potentially reaching 500kL during heavy rain periods. During sewage treatment, chemicals and by-products are produced which, if they are spilt or incorrectly managed, may contaminate the environment or threaten human health. A register of the chemicals is contained in Section 7.3 Appendix 3 - Site Chemical Register.

2.1 **Potential Incidents**
The potential hazards to the environment include:

- Sewage overflow (raw or partially treated) – potentially caused by:
  - Storms (lightning/heavy rainfall/wind) causing power failure or infrastructure damage
  - Reticulation blockages
  - Damage to reticulation (contractors or other damage during excavations etc)
  - Infrastructure failure due to age
  - Excessive flows
  - Mechanical break down
  - Power outage
  - Treatment plant blockage

- Chemical spill – potentially caused by:
  - Storage failure
  - Vandalism
  - Inappropriate handling

A detailed assessment of risks is provided in Section 7.5 Appendix 5 - Risk assessments and actions. For detail on actions to reduce risks see Section 2.4 Pre-emptive Measures and Section 7.6 Appendix 6 - Action plans to minimise harm.
2.2 Incident Response
This section details the response requirements in the event of an incident. In all situations:

The 24 hour emergency number for Boorowa Council Water and Sewerage is 0418863629

2.2.1 Human Health or Safety Incident
If there is immediate threat to Human Health or Safety, call triple zero “000” (“112” if using a mobile) and implement the following process:
1. If required, evacuate the site in accordance with site procedure
2. Contact Water and Sewer Team Leader (0418863629) and/or Senior Engineer (0408332340) or Assistant General Manager (0418227558)
3. Report the incident to Human Resources (63802000)

2.2.2 Pollution incident
During a pollution incident which involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, the Senior Engineer and Assistant General Manager must be notified immediately through the chain of command. The following agencies must be notified immediately through either the Senior Engineer or Assistant General Manager:

1. EPA Environment Line (written report to be provided within 7 days) 131 555
2. NSW Health 02 4824 1840
3. Work Cover 131050
4. Fire & Rescue 000

Council should also consider contacting the following as soon as practical:
1. Affected neighbours
2. Fisheries 1300 550 474
3. Chemical supplier Refer to the MSDS
4. Police
5. Department Primary Industries (DPI)

In all situations where there is damage and/or loss to private property or a member of the public due to an incident related to this plan contact:

- Council’s Asset and Risk Management Officer (02) 63802000

The incident response required depends on the type of incident that has occurred and will generally require an incident specific risk assessment to be conducted

Community notification
Impacts on the community due to sewage distribution and treatment incidents are variable and depend on location, volumes of spills or other factors. Communication methods will be used on a case by case basis and in all situations Boorowa Council will attempt to provide early warning to directly affected premises by phone call or site visit. Early warning is to include details of what the imminent incident is, how those affected can prepare and respond, and provide important advice such as avoiding contact and use of affected waterways.

Where early warning is not possible Boorowa Council will provide notification and communication during and after an incident to advise those affected with information, advice and updates. Notification and communication methods will be determined on a case by case basis and the following methods may be used:
- Phone calls
- Media releases (radio/television/newspaper/internet as required)
- Site visits/door knocking
- Letter drops
- Warning signs
- Other methods as the situation requires

In the event of a chemical or sewage spill into stormwater or waterway, Boorowa Council staff are to go to prominent and/or high use areas of the affected waterway and erect signage. The signs are to warn water users of the contamination and advise them to avoid activities such as swimming and fishing until contamination has cleared. Additionally, if the event occurred or was occurring during dry weather, Boorowa Council staff are to attend popular sites and advise users directly.

Contaminated land is to be disinfected, ponded sewage pumped out and the site is to be monitored until considered safe.

Regular communication and notification is to be provided until the incident and clean up of impacted site and affected areas has been complete (e.g. faecal coliforms have returned to background levels). Boorowa Council is to take signs down and advise the public that regular activities can be resumed by (as required):
- Phone calls
- Media releases (radio/television/newspaper/internet as required)
- Letter drops
- Other methods as the situation requires

2.2.3 Incidents at the STP
The Boorowa STP is located at the eastern edge of the Boorowa township adjacent to the existing Boorowa Industrial Area. The nearest neighbour from the Boorowa STP is approximately 100m up hill from the STP. There is nothing onsite that would create an emergency for any neighbours. Additionally, the inflow into this plant and the available storage means that even at peak wet weather flows the potential of an overflow from this plant reaching the Boorowa River (approximately 800m away) is low. However, if an incident did occur and any community members or neighbours were affected then the processes listed in Section 0 and will generally require an incident specific risk assessment to be conducted.

Community notification above would be implemented as required.

2.3 Incident Investigation
All emergencies must be investigated. For all other incidents, the Assistant General Manager (with guidance from relevant personnel) will decide whether an incident investigation will be conducted. When an incident investigation is required, the Assistant General Manager is responsible for:
- Forming the investigation team
- Co-ordinating the investigation

A de-brief is to be conducted for all emergency incidents. However, the Assistant General Manager may also initiate de-briefs for other incidents where they feel it is appropriate.

2.4 Pre-emptive Measures
2.4.1 Physical and preventative measures
First priority for pre-emptive measures is to eliminate substances that can become potential pollutants. If this is not possible, physical barriers should be installed to prevent pollutants from entering the environment such as bunding and spill drainage containment. At Boorowa STP limited chemicals are stored on site which results in low pollution risk. Additionally, the reticulation, pump stations, and Boorowa STP are regularly monitored. Monitoring and telemetry alarm systems are planned for implementation to alert operators of conditions that may result in incidents, which include:
- High level alarms
- Communication failure
- No flow/high flow alarms
In the event that any of the reticulation network including pump stations fail Boorowa Council has portable bypass pumps and other containment options available.

2.4.2 Preventative monitoring and maintenance
Boorowa Council uses monitoring and preventative maintenance to reduce the potential for incidents at both the STP and for the reticulation and pump stations. These separated in the following timeframes:

- Daily
- Weekly
- Monthly to Annually
- Longer term (capital works and maintenance programs)

**Daily**
The STP is to be attended daily and the following inspected:

- Maintenance requirements
- Chemical quantities
- Plant performance data
- House keeping issues that requiring attention
- Vandalism and/or thefts
- Functioning of valves

**Weekly**
For the reticulation and associated pump stations staff are to conduct weekly pump station checks.

**Monthly to Annually**
The following is to be checked monthly for the reticulation and pump stations:

The following is to be checked or conducted every three months:

- All valve operations - exercising, maintenance
- Inlet Valves - exercising, maintenance
- Isolation Valves - exercising, maintenance
- Spray and exercise locks

The following is to be checked or conducted every six months:

- Fire Extinguishes
- Odour Beds and Sprinkler System - inspection
- Overflow Plugs - inspection
- Remove grit with suck truck - Vacuum Truck
- Stink Pipe - cartridges and whirly bird - inspection
- Sump Pumps - Dry Well PS's
- Vermin/Insect Protection

The following is to be checked or conducted annually:

- Lopping and pruning of trees surrounding PS's
- Painting
- Prune trees around odour beds
- Pump Performance Testing
- Team Training - New Technologies and Upgrades
- CCTV and Jetting for repeat chokes
- Tree removal where there are repeat chokes
- Condition assessment of above ground rising mains

Other checks include manhole inspection, maintenance, repair and resealing (as required) safety net checks (bi-annually.)
2.5 Training
All staff required to implement this plan and associated documents must have training in its use and be inducted into it. This is to ensure they are aware of the content, processes and requirements of this plan and can competently implement it if necessary. Additionally, relevant staff will be involved in an annual exercise/drill to test the implementation of the plan. In the event of a significant incident, an investigation and debrief will be conducted, documentation updated (if required) and staff will be re-induced.

All, desktop exercises, drills and incidents are to be registered into Council’s Records System, and training records will be sent to Human Resources for filing.

3. Responsibility
Boorowa Councils Assistant General Manager is responsible for the implementation of this Plan.

4. References
- EPA NSW Environmental Guidelines: Preparation of pollution incident response plans
- Local Government Act 1993
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (General) Regulation 2009
- Public Health Act 1991
- Water Administration Act 1986

5. Dictionary
Pollution incident: means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise (see the POEO Act 1997).

Harm to the environment: 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

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.

6. Table of Amendments

<table>
<thead>
<tr>
<th>Amendment</th>
<th>Authorised by</th>
<th>Approval reference</th>
<th>Date</th>
</tr>
</thead>
</table>

7. Appendices
- Appendix 1 - Site Layout Boorowa Sewage Treatment Plant
- Appendix 2 – Sewerage Catchment
- Appendix 3 – Site Chemical Register
- Appendix 4 - Personal Protective Equipment
- Appendix 5 - Risk assessments and actions
- Appendix 6 – Action Plans to minimise harm
7.1 Appendix 1 - Site Layout
Boorowa Sewage Treatment Plant

![Diagram of Boorowa Sewage Treatment Plant]

- Inlet Works
- Biological (Trickling) Filters
- Effluent Ponds
- Sludge Lagoons
- Emergency Evacuation Area

Boorowa Sewage Treatment Plant Clarifiers

---
7.2 Appendix 2 – Sewerage catchment
7.3 Appendix 3 - Site Chemical Register

Date of register: 1 August 2012

<table>
<thead>
<tr>
<th>Folder Reference</th>
<th>Chemical Name</th>
<th>Manufacturer</th>
<th>MSDS Expiry Date</th>
<th>Maximum Volume of Chemicals Stored</th>
<th>Location Where Chemical is Stored</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chlorine (Granular)</td>
<td>PREMIORCHLOR</td>
<td>5/04/2011</td>
<td>20kg</td>
<td>Treatment Plant</td>
</tr>
<tr>
<td>2</td>
<td>Sodium Carbonate (Soda Ash)</td>
<td>SHELL</td>
<td>19/02/2012</td>
<td>12x20kg bags</td>
<td>Treatment Plant</td>
</tr>
</tbody>
</table>

7.4 Appendix 4 - Personal Protective Equipment List

This section lists the standard PPE items required.

Boorowa Sewerage Treatment Plant

The following items are to be kept at the Moonee WRP:
- Gas monitor (located at Boorowa Water Treatment Plant)
- Gas calibration equipment
- Sun screen
- Apron/disposal overalls
- Rubber Gloves
- Safety glasses
- Gumboots
- Steel capped Boots
- Hard Hat
- Safety Harness
- Hat
- First Aid Kit

Sewerage reticulation response vehicle

The following items are to be kept on the sewerage reticulation response vehicle:
- Goggles/eye protection
- Hearing protection
- Apron/disposable overalls
- Rubber gloves
- Gumboots
- First Aid Kit
- Asbestos Kit (located at works depot)
### Appendix 5 - Risk assessments and actions

<table>
<thead>
<tr>
<th>No</th>
<th>Risk</th>
<th>Impact</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR1</strong> Sewage overflow due to heavy rainfall Land contamination, possibly enter a waterway C2 = M  • Reticulation maintenance and rehabilitation to reduce infiltration and inflows  • Spare capacity in pump wells  • Monitoring and maintenance  • Pre-emptive measures see Section 2.4  • See also 7.6 Appendix 6 - Action plans to minimise harm</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR2</strong> Sewage overflow due to power failure Land contamination, possibly enter a waterway B2 = L  • Lightning protection  • Back up pumps  • Pre-emptive measures see Section 2.4</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR3</strong> Sewage overflow due to storm damaging infrastructure Land contamination, possibly enter a waterway B2 = L  • Lightning protection  • Sight vegetation management to prevent damage to infrastructure  • Portable pumps  • Pre-emptive measures see Section 2.4 Pre-emptive Measures</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR4</strong> Sewage overflow due to Reticulation blockages or damage Land contamination, possibly enter a waterway C2 = M  • Reticulation maintenance  • Sewer Jetting program (high pressure cleaning of mains for repeat chokes)  • Spare capacity in pump wells  • Monitoring and maintenance  • Pre-emptive measures see Section 2.4</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR5</strong> Sewage overflow due to external persons excavation hitting the sewers Land contamination, possibly enter a waterway C2 = M  • Provide underground service locations to external persons  • Vacuum trucks (for clean up)  • Portable pumps (for clean up)</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR6</strong> Sewage overflow due to Infrastructure failure (e.g. due to age) Land contamination, possibly enter a waterway B2 = L  • Maintenance and renewal programs  • Pre-emptive measures see Section 2.4 Pre-emptive Measures</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR7</strong> Sewage overflow due to Mechanical breakdown/dual pump failure Land contamination, possibly enter a waterway B2 = L  • Maintenance and inspection programs  • Spare capacity in pump wells  • Portable pump to bypass site  • Monitoring and maintenance  • Pre-emptive measures see Section 2.4 Pre-emptive Measures</td>
</tr>
<tr>
<td></td>
<td>Boorowa Reticulation</td>
<td></td>
<td><strong>BR8</strong> Sewage overflow from manhole FR/2 (CAT02ME) due to blockage / damage / rainfall Land/water contamination due to sewage entering watercourse draining to Fiddamans Creek A2 = L  • Reticulation maintenance and rehabilitation to reduce infiltration and inflows  • Spare capacity in pump wells and reticulation  • Monitoring and maintenance  • Pre-emptive measures see Section 2.4 Pre-emptive Measures  • See also 7.6 Appendix 6 - Action plans to minimise harm</td>
</tr>
<tr>
<td>No</td>
<td>Risk</td>
<td>Impact</td>
<td>LxC = Rating</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Sewerage Treatment Plant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| BSTP1| Sewage overflow (raw) due to heavy rainfall                          | Land contamination, possibly enter a waterway                          | B2 = L       | ▪ Reticulation maintenance to reduce infiltration and inflows  
▪ Spare capacity in pump wells  
▪ Overflow storage at the STP  
▪ Overflow to storage pond  
▪ Monitoring and maintenance  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP2| Sewage overflow (raw) due to storm (lightning/wind) causing power failure | Land contamination, possibly enter a waterway                          | B2 = L       | ▪ Lightning protection  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP3| Sewage overflow (raw) due to storm (lightning/wind) causing infrastructure damage | Land contamination, possibly enter a waterway                          | A2 = L       | ▪ Lightning protection  
▪ Sight vegetation management to prevent damage to infrastructure  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP4| Sewage overflow (raw) due to Reticulation blockages                  | Land contamination, possibly enter a waterway                          | A2 = L       | ▪ Reticulation maintenance  
▪ Spare capacity in pump wells  
▪ Overflow storage at the STP  
▪ Overflow to storage pond  
▪ Monitoring and maintenance  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP5| Sewage overflow (raw) due to damage to onsite reticulation (e.g. during excavations etc) | Land contamination, possibly enter a waterway                          | B2 = L       | ▪ Locate services prior to excavations  
▪ Appropriate supervision of contractors  
▪ Bypass systems |
| BSTP6| Sewage overflow (raw) due to Infrastructure failure (e.g. due to age) | Land contamination, possibly enter a waterway                          | B2 = L       | ▪ Maintenance and renewal programs  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP7| Sewage overflow (raw) due to excessive flows                         | Land contamination, possibly enter a waterway                          | A2 = L       | ▪ Reticulation maintenance to reduce infiltration and inflows  
▪ Spare capacity in pump wells  
▪ Overflow storage at the STP  
▪ Overflow to storage pond  
▪ Monitoring and maintenance  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP9| Sewage overflow (raw) due to Mechanical break down                   | Land contamination, possibly enter a waterway                          | A2 = L       | ▪ Maintenance and inspection programs  
▪ Spare capacity in pump wells  
▪ Monitoring and maintenance  
▪ Pre-emptive measures see Section 2.4 Pre-emptive Measures |
| BSTP10| Sewage overflow (raw) due to Treatment plant blockage               | Land contamination, possibly enter a waterway                          | A2 = L       | ▪ Gross solid screening |

Uncontrolled when printed
<table>
<thead>
<tr>
<th>No</th>
<th>Risk</th>
<th>Impact</th>
<th>Rating</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSTP11</td>
<td>Chemical spill</td>
<td>Land contamination, possibly enter a waterway</td>
<td>A2 = L</td>
<td>Site security fences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suitable storage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Correct Handling Procedures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>A IMPROBABLE</td>
<td>May occur only in exceptional circumstances</td>
</tr>
<tr>
<td>B REMOTE</td>
<td>Could occur at some time</td>
</tr>
<tr>
<td>C OCCASIONAL</td>
<td>Might occur at some time</td>
</tr>
<tr>
<td>D FREQUENT</td>
<td>Will probably occur in most circumstances</td>
</tr>
<tr>
<td>E CONTINUOUS</td>
<td>Is expected to occur in most circumstances</td>
</tr>
</tbody>
</table>

Refer also to Councils Hazards, Risks and Controls Guidelines

<table>
<thead>
<tr>
<th>Consequences</th>
<th>Likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INSIGNIFICANT</td>
<td>- No injuries, minimal level of pollution, Employee grievances dealt with on site, Loss &lt;5% of job cost, service, business failure resulting in delay &lt; 1 week and costs, plant/equipment loss &lt; $1,000</td>
</tr>
<tr>
<td>2. MINOR</td>
<td>- First aid treatment, limited/localised impact, Employee grievances dealt with by senior management, loss 5-10% of job cost, business failure resulting in delay &lt; 1 month and costs, plant/equipment loss &lt; $10,000</td>
</tr>
<tr>
<td>3. MODERATE</td>
<td>- Medical treatment &amp; several days off work, significant pollution requiring outside assistance, Employee grievances taken to the union, loss 10-20% of job cost, non-compliance with legislation/Licence conditions, business failure resulting in delay &lt; 3 months and costs, plant/equipment loss &lt; $50,000</td>
</tr>
<tr>
<td>4. MAJOR</td>
<td>- long term illness/serious injury, significant pollution requiring outside assistance &amp; long term environ damage, threatened industrial action, loss 20-70% of job cost, loss of production capability, order placed on Council by Authorities, business failure resulting in delay &lt; 6 months and costs, plant/equipment loss &lt; $100,000</td>
</tr>
<tr>
<td>5. CATASTROPHIC</td>
<td>- Death or permanent disability/illness, serious permanent environmental damage, Actual industrial action, loss &gt;70% of job cost, potential prosecution by Authorities, business failure resulting in delay &gt; 6 months and costs, plant/equipment loss &gt; $100,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>L</td>
</tr>
<tr>
<td>B</td>
<td>M</td>
</tr>
<tr>
<td>C</td>
<td>H</td>
</tr>
<tr>
<td>D</td>
<td>V</td>
</tr>
<tr>
<td>E</td>
<td>X</td>
</tr>
</tbody>
</table>

Rating
L = Low
M = Medium
H = High
V = Very High
X = Extreme
7.6 Appendix 6 - Action plans to minimise harm

To address the risk of sewer overflows, Boorowa Council has a number of management actions comprising of one or more of the following:

- Further detailed Investigations of very high and extreme risks
- Augmentation of Sewerage Assets to Increase Capacity
- Planned Maintenance of Existing Assets
- Planned Renewal of Existing Assets
- Future implementation of telemetry systems
- Continuous Improvement of Sewerage System Operations
- Emergency Response Procedure to Power Failures
- Incident Response Protocol
- Progress towards compliance with Water and Sewerage Best Practice Guidelines