

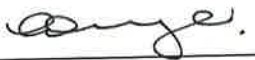
# Hay Sewage Treatment Plant

## Pollution Incident Response Management Plan

August 2014

## Document Control

Issue	Rev	Date	Author	Approved By
Approved Plan	0.0	August 2014	William Moore	Allen Dwyer

This plan approved for use , General Manager,  
(Allen Dwyer)

Hay Shire Council 05/08/2014.

Note: This plan replaces a previous plan dated September, 2012 prepared by CPE Associates Pty Ltd.

## **Executive Summary**

This Pollution Incident Response Management Plan has been prepared to meet the requirements in respect to Section 153A of the Protection of the Environmental Operations Act 1997 (POEO) and Regulations that are required of all licensees.

This plan relates to the operation of the Hay Sewage Treatment Plant located off Old Thelangerin Road, Hay (see Figure 3, Section 9).

In accordance with EPA guidelines this plan addresses the following objectives:

1. To ensure comprehensive and timely communication about a pollution incident to staff at the premises, the Environment Protection Authority (EPA), other relevant authorities specified in the Act (such as local councils, NSW Ministry of Health, WorkCover NSW, and Fire and Rescue NSW) and people outside the facility who may be affected by the impacts of the pollution incident
2. To minimise and control the risk of a pollution incident at the facility by requiring identification of risks and the development of planned actions to minimise and manage those risks, and
3. To ensure that the plan is properly implemented by trained staff, identifying persons responsible for implementing it, and ensuring that the plan is regularly tested for accuracy, currency and suitability.

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## **1. Introduction**

### **1.1 Purpose of Report**

Changes to the Protection of the Environment Operations Act 1997 (POEO Act) were implemented on 29 February 2012. In summary, these changes require licensees to develop, implement and test formal pollution-incident response management plans (PIRMPs) for each of their licensed activities. The requirements are set out in part 5.7A of the POEO Act and details contained in Protection of the Environment (General) Amendment (Pollution incident response management plans)

This Pollution incident response management plan is prepared to meet the requirements of the POEO Act and Regulations.

### **1.2 EPA Licence**

The Hay Sewage Treatment Plant off Old Thelangerin Road, operates under EPA Licence No 3520 with Council undertaking the roles of both the operator and the licence holder

## **2. Description and likelihood of hazards**

**Appendix A** contains an Environmental Risk Assessment that identifies the hazards to human health or the environment and likelihood of occurrence. The hazards are described below:

### **Storage of Chemicals**

Soda Ash is the only chemical used at the STP, Soda Ash is stored at the Water Treatment Plant (corner Cadell and Coke Streets, Hay) with required quantities brought to the STP on an as needed basis.

### **Waste Materials (Sludge)**

All sewage sludge is dried on site and disposed on site.

### **Sewerage Effluent**

Sewage is processed at a number of locations at the Sewerage Treatment Plant:

- The Inlet Works
- Primary Sedimentation Tanks
- Trickling Filter
- Sludge Lagoon
- Maturation Ponds
- Digesters

The final product is tertiary sewage effluent that is required to be of a standard that can be safely discharged.

In times of high wet weather flow, there is the potential for the capacity of the plant to be exceeded, resulting in decreased effluent quality or overflows from the plant.

There is a risk that illegal dumping of pollutants into the sewers by others may affect the treatment process.

### **Potential Failure of Process Units**

Structural failure of any aspect of the plant may release partially treated pollutants.

### **Uncontrolled Release of Gas or Odours**

Whilst there is no record of odour complaints from the Sewerage Treatment Plant, there is the potential for failures in the biological processes, which would release odours.

**Flooding of Effluent Dams**

The Sewage Treatment Plant is located above the 1 in 100 year ARI flood level but below the probable maximum flood. There is a remote possibility that an extreme flood event would flood the effluent dams and release some pollutants, but the contents of those dams has already been significantly treated and it is probable that the water in the dams will be of a higher quality than the flood waters themselves.

**Failure of a pump can lead to overflowing sewage**

Failure of a pump may result in an overflow of raw sewage.

**Personnel coming into contact with raw sewage**

There is a risk of the operators of the plant accidentally contacting either raw sewage or treated effluent in their normal day to day activities. This risk is identified and covered in the Work Place Health and Safety documentation for the plant. There is no public access to the treatment plant.

**Public contact with treated effluent**

There is unrestricted access to the effluent dams which could result in the public coming into contact with treated effluent or sludge. The tertiary ponds attract wildlife and subsequently the public occasionally access the site to observe wildlife, though this practice is prohibited.

### **3. Pre-emptive actions to be taken**

**Appendix A** contains an Environmental Risk Assessment that identifies the pre-emptive actions to minimise risk to human health or environment. These actions are described below:

#### **Storage of Chemicals**

Soda Ash is the only chemical used at the STP. Soda Ash is stored at the Water Treatment Plant at the intersection of Coke and Cadell Streets Hay. Material Safety Data Sheets and Safe Work Method Statements are retained on both sites for handling of this chemical. Council only engages appropriately trained carters to transport the chemicals from the chemical suppliers to site. Only trained Council staff transport Soda Ash from the WTP to the STP.

#### **Waste Materials (Sludge)**

All sewage sludge is dried and disposed on site. Site disposal lessens the possibility of contaminants moving off site

#### **Sewerage Effluent**

In times of high wet weather flow, there is the potential for the capacity of the plant to be exceeded, resulting in decreased effluent quality or overflows. Effluent can be diverted directly from the inlet works to the tertiary ponds. In these situations, effluent is highly diluted and the risks are minimised. Operators control these diversions through the operation of valves etc.

#### **Potential Failure of Process Units**

Independent condition assessment of plant is undertaken every 5 years as part of the mandatory asset valuation process, to report on the structural integrity of the plant. Any structural issues can be actioned at that time. Additionally, operators monitor the plant daily.

#### **Uncontrolled Release of Gas or Odours**

Whilst there is no record of odour complaints from the Sewage Treatment Plant, there is the potential for failures in the biological processes, which would release odours. Should a complaint be received, it will be recorded on Council's Customer Request System and the cause investigated.

#### **Flooding of Effluent Dams**

The State Emergency Service has Emergency Management Systems in place to warn of any impending flood event above the 1 in 100 year flood level. The dilution in an extreme event will reduce the impact of pollutants.

**Failure of a pump can lead to overflowing sewage**

Operators maintain both the duty pump and the standby pump to minimise the potential for a pump failure. In the event of an electricity outage the plant relies on wet well storage. In an extended outage a tanker is used to convey sewage to an effluent pond, from where it can be pumped back to the treatment plant once the power is restored. In the event of a power outage, Council will contact the energy provider early in the outage to determine if a pump-out tanker is likely to be required.

**Personnel coming into contact with raw sewage**

This risk is identified and covered in the Work Place Health and Safety documentation for the plant. For example operators are required to have designated inoculations to protect them as well as practicing appropriate hygiene levels. There is no unsupervised public access to the treatment plant.

Site visitors are given the appropriate induction before proceeding on a tour of the plant. They are then taken via a route that minimises or removes any chance of them coming in contact with the effluent.

**Personnel and the public coming into contact with treated effluent**

The tertiary ponds attract wildlife and subsequently the public occasionally access the site to observe wildlife. Prohibition signage has been installed at the tertiary ponds to warn the public of the hazards. Photographs of this signage are below.

**Figure 1 – Photographs of signage at Tertiary Ponds to warn the public of hazards**



## **4. Inventory of Pollutants**

### **Chemicals**

The only chemical used at the STP is Soda Ash. The Soda Ash is stored at the Water Treatment Plant in a secure location and is transported in bags to the STP only as required.

### **Sewage Effluent**

Sewage Effluent is stored at location at the Sewage Treatment Plant throughout the treatment process as follows:

- Sludge Lagoon
- Maturation Ponds

Effluent that is being treated flows through the treatment process with minimal storage time.

## **5. Safety Equipment**

All Sewage Treatment Plant Operators are inducted into appropriate Workplace Health and Safety Procedures and are required to wear appropriate Personal Protective Equipment when working in the vicinity of effluent or for handling chemicals.

Operators are appropriately trained in the safe handling and use of Soda Ash and Soda Ash MSDS are contained in the STP operations manual.

## 6. Contact Details

### 6.1 List of 24 hour contact details of key individuals who are responsible for activating plans and managing response.

Name	Position	First Point of Contact (Mobile Number)	Second Point of Contact (Landline)
Tony Davies	Water and Sewer Supervisor	0429 328 959	(02) 6993 1528
Greg Stewart	Infrastructure Manager	0429 931 272	(02) 6993 1272

### 6.2 List of those authorised to notify relevant authorities under Section 148 of POEO Act

Name	Position	First Point of Contact (Mobile Number)	Second Point of Contact (Landline)
Allen Dwyer	General Manager	0429 931 003	(02) 6990 1100
Greg Stewart	Infrastructure Manager	0429 931 272	(02) 6990 1100

### 6.3 List of authorities to be notified

Section 148 of the POEO Act lists five authorities to be notified in the event of a pollution incident. These are:

Authority	Phone Number	Fax Number	Email Address
EPA	131 555	02 9995 5922	epa.nsw.gov.au
Hay Shire Council	02 6990 1100	02 6993 1288	mail@hay.nsw.gov.au
NSW Ministry of Health	02 6933 9128	02 6933 9129	kevin.prior@gsahs.health.nsw.gov.au
WorkCover Authority	02 6962 8900	02 6964 1738	contact@workcover.nsw.gov
Fire and Rescue NSW	02 6993 1101	02 6993 1011	michael.edwards@fire.nsw.gov.au

Section R2 of the licence requires Council to notify the EPA of any environmental harm:

#### “R2 Notification of environmental harm

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.”

## 7. Communication with neighbours and local community

Figure 3 (Section 9) shows the location of the surrounding residents and their proximity to the plant.

The procedure for providing early warnings and regular updates to the owners and occupiers of premises who may be affected by an incident is:

**STEP 1** – The first action is to telephone or doorknock the affected area. Refer to Figure 3 for location of surrounding properties.

**STEP 2** - Wider communication with the local community through local radio station (Hay FM) and the Council web site.

**STEP 3** – Communication with all residents following an incident through “Local Shire Snippets”, a fortnightly Council publication and in the weekly local newspaper; “The Riverine Grazier”.

## 8. Minimisation of harm to persons on the premises.

Emergency procedures are activated in the event an incident occurs. A muster point and evacuation route are nominated, and the plan is displayed at the WTP.

The photograph below (Figure 2) shows the evacuation plan for the premises. Figure 10 shows the location of residences close to the premises. If a serious chemical spillage were to occur, the assistance of the police may be required to advise residents.

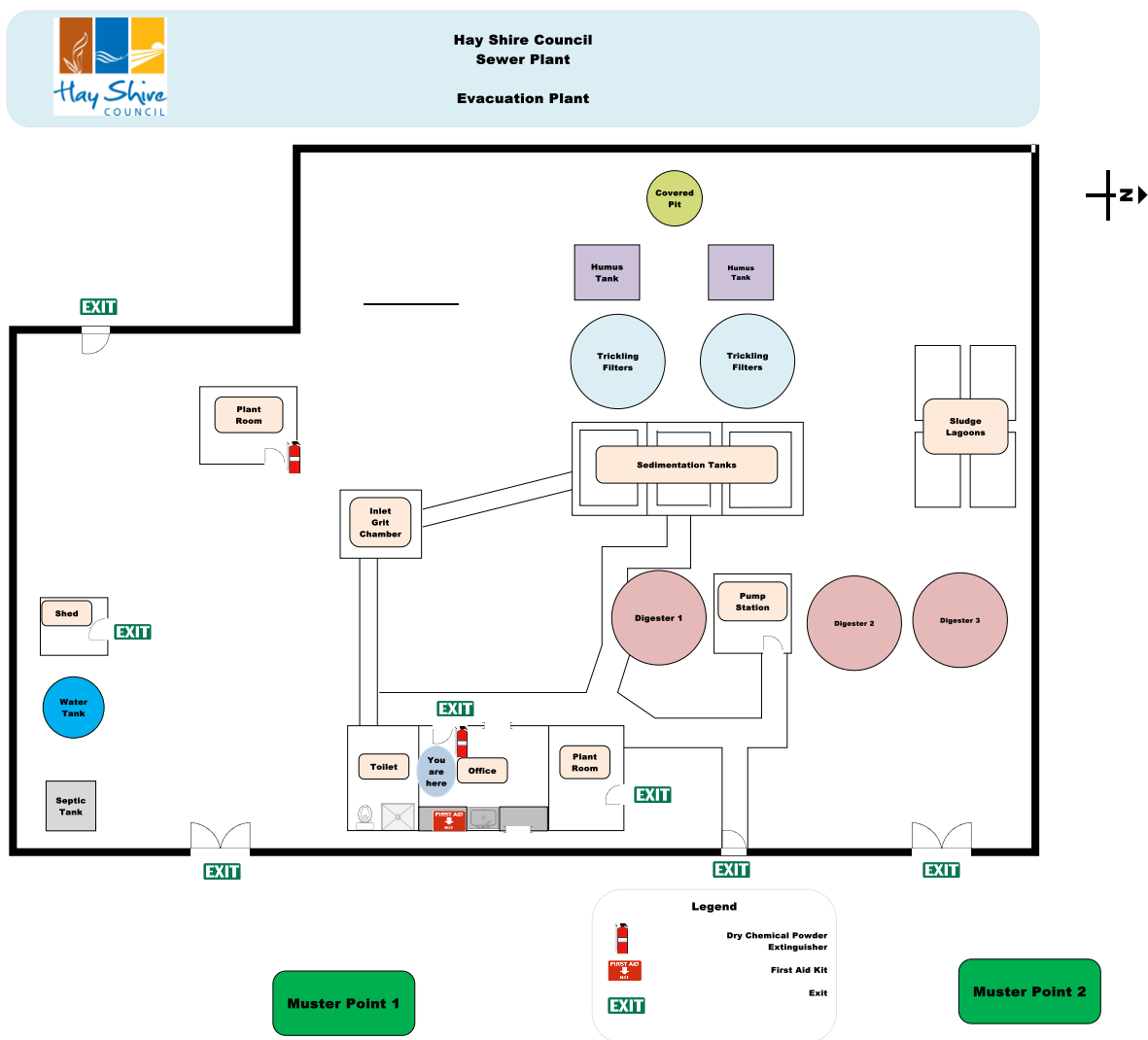


Figure 2 – Evacuation Plan

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## 9. Maps

Figure 3 - Location of Hay Sewage Treatment Plant (STP)



	<p><b>Important Notice!</b> This map is not a precise survey document. Accurate locations can only be determined by a survey on the ground. This information has been prepared for Council's internal purposes and for no other purpose. No statement is made about the accuracy or suitability of the information for use for any purpose (whether the purpose has been notified to Council or not). While every care is taken to ensure the accuracy of this data, neither the Hay Shire Council nor the LPI makes any representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason. © The State of New South Wales (Land and Property Information). © Hay Shire Council.</p>	<p><b>Important</b> This map was produced on the GEODESIC DATUM OF AUSTRALIA 1984 (GDA84), which has superseded the Australian Geographic Datum of 1984 (AGD84). Heights are referenced to the Australia Height Datum (AHD) heights. For most practical purposes, GDA84 coordinates and satellite derived (GPS) coordinates based on the World Geodesic Datum 1984 (WGS84) are the same.</p>	<p>True North, GND North and magnetic North are shown approximately for the benefit of the Hay local government area. Magnetic North is correct to 2002, moving westerly by 0.24° in about five years.</p> <p>Drawn By: W Moore Projection: GDA84 / MGA zone 55 Date: Tuesday, 29 July 2014</p>	<p><b>X</b> Indicates location of nearest occupied dwellings to the Hay Sewage Treatment Plant (STP)</p> <p>Map Scale: 1:10000 at A4</p> <p><b>Fig 3 – Location of Hay STP</b></p>
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## **10. Actions to be taken during or immediately after a pollution incident.**

The actions to be taken immediately after an incident are:

STEP 1 – Isolate the source of pollution wherever possible

In the event of a high flow incident, effluent can be diverted directly from the inlet works to the tertiary ponds. In these situations, effluent is highly diluted and the risks are minimised. Operators control these diversions through the operation of valves etc.

STEP 2 – Notify plant supervisor and designated council officer

STEP 3 – Continue to contain the pollution wherever possible.

STEP 4 – Notify the relevant statutory authorities required under Section 148 of POEO Act (Refer Section 6 of this Plan)

STEP 5 – Communicate with affected neighbours and the community in accordance with Section 7 of this plan.

STEP 6 – Undertake ongoing remedial action as appropriate.

STEP 7 – Fill out incident report and submit in accordance with Council procedures.

## **11. Staff Training**

All STP Operators are skilled and qualified. All are long term employees who have been STP operators for some time. Succession planning is practiced with other staff well trained to take the place of the normal operators if they are not available.

All relevant qualifications are current. Staff training records are maintained by Council's Risk Management Officer.

All operators are trained on the chemicals used with Material Safety Data Sheets regularly updated and staff made familiar with these and this PIRMP on a twice yearly basis.

## **12. Making Plans Available**

A copy of this plan will be displayed in the staff room at the STP premises.

A copy of this plan is available on the Council website at  
<http://www.hay.nsw.gov.au/CouncilServices/WaterSewer/tabid/124/Default.aspx>

### **13. Testing Plans Once Every Twelve Months**

It is required that the plan be tested every 12 months. The Risk Management Officer will arrange for a desktop test of the plan involving all water treatment plant staff once per year. At least every 2-3 years, the Risk Management Officer will co-ordinate an emergency simulation in consultation with the Local Emergency Management Committee.

## Appendix A. – Risk Assessment Matrix

Activity or Factor (Site, Materials, Equipment, Sub- Contractors, Process)	Potential Hazard(s) (what can happen & how)	How Severe	How Likely	Risk No 1-6	Control Measures/Treatment	How Severe	How Likely	Rev Risk No
Storage of Chemicals	Soda Ash the only chemical used at the STP. This is stored at the Water Treatment Plant.	Moderate	Rarely	4	<ul style="list-style-type: none"> <li>MSDS exist for each chemical</li> <li>Safe Work Method Statements exist for handling each chemical.</li> </ul>			
Transport of Chemicals	Movement of the chemicals from the Chemical Supplier to the STP site.	Moderate	Rarely	4	Designated transport procedures exist and Council uses only appropriately licensed chemical suppliers and their designated carters.	Moderate	Rarely	4
Waste Materials (Sludge)	All sewage sludge is dried and disposed of on site.	Moderate	Rarely	4	Site disposal lessens the possibility of contaminants moving off site.			
Sewage Effluent	Capacity of plant exceeded in a high flow event.  Effluent is it discharged back into the environment.	Moderate	Someti mes	3	Effluent can be diverted directly from the inlet works to the tertiary ponds. In these situations, effluent is highly diluted and the risks are minimised.	Low	Someti mes	4
Uncontrolled Release of Gas or Odours	Failure of biological processes can result in odour.	Moderate	Medium	3	Plant operating procedures maintained by skilled and trained staff.	Slight	Rare	5

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Process failure	Notifying downstream users. No real control over plant quality.	Moderate	Rare	4		Moderate	Rare	4
Illegal dumping into the reticulated sewers and this impacting the plant.	Little operators can do as plant has limited ability to control.	Moderate	Medium	3	Liquid Trade Waste Inspections	Moderate	Medium	3
Flooding of Effluent Dams	Plant is located above the 1 in 100 year flood level but is within the PMF. Any flooding will dilute any contaminants.	Moderate	Rare	4	Emergency Management Systems in place to warn of any impending flood event above the 1 in 100 year flood level.	Moderate	Rare	4
Pump failure	Failure of a pump can lead to overflowing sewage.	Moderate	Low	4	Maintain primary and backup pumps.	Slight	Low	5
Potential Failure of Contaminant Tanks	Structural failure would release pollutants.	Severe	Unlikely	4	Condition assessment of plant monitors structural integrity.	Moderate	Unlikely	5
Personnel contacting raw or treated effluent	Contact with raw or treated sewage.	Moderate	High	2	Workplace Health and Safety Procedures	Moderate	Low	4
Public contact with treated effluent in tertiary ponds	Public access to tertiary ponds, which attract wildlife.	Slight	Medium	4	Warning signage erected and maintained.	Slight	Low	5
Inability to get qualified staff		Moderate	Medium	3	Ongoing training and future planning	Moderate	Low	4

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**Risk Assessment Matrix:**

**LIKELIHOOD**

<b>HIGH</b> Any time	<b>MEDIUM</b> Sometime	<b>LOW</b> Rarely	<b>UNLIKELY</b> Probably never
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<b>C O N S E Q U E N C E S</b>	<b>MAJOR IMPACT</b> Significant permanent damage to the environment or the community	1	1	2	3
	<b>SERIOUS IMPACT</b> Lasting impact on the environment or the community	1	2	3	4
	<b>MODERATE IMPACT</b> Moderate impact on the environment or the community	2	3	4	5
	<b>SLIGHT IMPACT</b> Temporary impact on the environment or the community. No permanent damage	3	4	5	6

Control Measures: (How can you reduce the frequency, duration or severity of the hazard?)

- Elimination
- Substitution
- Isolation
- Engineering-structural change to environment or process
- Administrative-(alter procedures, provide instruction)

<b>Assessment:</b>	1 - Immediate action-eliminate or isolate the risk 2 - Initiate action immediately	3-4 - Initiate action as soon as possible 5-6 - Monitor / do by agreed date	<b>**Responsible Officer</b>	RO – Officer required to ensure action taken
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