

Operational Procedure: Water: Chemical Incident Response Management Plan:

Mica Street Water Treatment Plant Menindee

Water Treatment Plant

Sunset Strip Water Treatment Plant

Menindee Pumping Station Pipeline Chlorinator

CEOP8272

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1 INTRODUCTION

Essential Water has developed this management plan to provide clear actions, methods, responsibilities and interaction with emergency services in response to a chemical spill at Essential Water's water treatment plants (WTP's) and pipeline chlorinator.

It is essential chemical spills are quickly identified, contained and neutralised to minimise risk to personnel and the environment. It is also mandatory regulatory agencies are notified in accordance with protocols and legislative requirements.

- Bulk chemicals are stored at the following locations;
- Mica St Water Treatment Plant – 199 Kaolin St Broken Hill
- Menindee Water Treatment Plant – via Pamamaroo St Menindee
- Menindee Pumping Station Pipeline Chlorinator - via Pamamaroo St Menindee
- Sunset Strip Water Treatment Plant – Approximately 95km from Broken Hill.

2 WHY THESE INSTRUCTIONS ARE IMPORTANT

This plan is in line with Essential Energy's commitment to be an environmentally responsible regional utility provider. Essential Energy is committed to:

- Preventing pollution
- Preserving and conserving habitat and species
- Preserving unique features and heritage
- Demonstrating best practice via example
- Complying with statutory and regulatory compliance

(Source: CECM1000.90 -Operational Manual: Health, Safety & Environment (HSE)– (Handbook)

3 FACILITIES COVERED BY THIS PLAN

This pollution incident response management plan covers the following Essential Water Environmental Protection Licensed facilities:

3.1 Mica St Water Treatment Plant

The WTP is located on a hill in the middle of Broken Hill in close proximity to schools and residential areas. The main entrance is located at the corner of Marks and Kaolin St. A secondary access is located at the corner of Wickes and Garnet St.

The WTP has an operator on site 24hrs/day, 7days/week. The operator is trained in chemical handling and response to chemical spills. All hazardous chemicals have SCADA alarms in the batching rooms and the operator performs routine inspections of plant each shift.

The following bulk chemicals are store at this location;

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Mica St Water Treatment Plant – 199 Kaolin St Broken Hill			
Chemical	DG Class	Packing Group	Maximum Quantity
Potassium Permanganate	5.1	II	4,000Lts
Calcium Hypochlorite	5.1	II	200kg
Sodium SilicoFluoride	6.1	III	2,000kg
Sodium Hypochlorite	8	II	2,200Lts
Sulphuric Acid	8	II	20,000Lts
Hydrated Lime	8	III	60,000kg
Cl2 Chlorine Liquid	2.3 & 8	None	10 * 920kg
Cl2 Chlorine Liquid	2.3 & 8	None	3 * 70kg
Liquid aluminium sulphate	None	None	90,000L
Powdered activated carbon	None	None	4,000kg
Magnafloc LT425	None	None	1,000L
Magnafloc LT20	None	None	1,000kg

3.1.1 Response to Potassium Permanganate Spill

Potassium permanganate is supplied in 25kg pails on a pallet. The chemical is stored in the batching room where it is mixed in 2000L tanks with water. The room sump has a SCADA alarm and is designed to contain the volume of a leaking tank. The chemical has a HAZCHEM rating of 5.1 and is moderately toxic and a severe irritant.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Eliminate all ignition sources
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.1.2 Response to Calcium Hypochlorite Spill

Calcium Hypochlorite (pool chlorine) is supplied in 10kg buckets and normally used in small quantities. The chemical is highly corrosive. Avoid contact with eyes, skin or inhalation. It can cause permanent damage to eyes or convulsions and death if ingested. In atmosphere it may release chlorine and in contact with water may release Hypochlorites.

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If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting. If inhaled remove from contaminated area. To protect rescuer, use full-face Type B-Class P2, (inorganic and acid gas, particulate) respirator.

Spill management:

- Use PPE (refer SDS)
- Only trained personnel should undertake clean up
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Ventilate area where possible
- Avoid generating dust
- Contain spillage, then collect and place in suitable containers for disposal
- Do not return spilt material to original container as it maybe wet or contaminated with combustible material
- Spread out contaminated material into a thin layer to avoid the possibility of local hot spots forming
- If the material is damp and chlorine gas evolves, this can be reduced by covering with soda ash
- Wash away with large amounts of water
- Prevent spill entering drains or waterways.

3.1.3 Response to Sodium SilicoFluoride Spill

Sodium SilicoFluoride is supplied in 20kg bags. Only qualified fluoride operators or personnel in continuous supervision from a qualified fluoride operator may handle the chemical. The chemical is a DG Class 6.1 poison. The chemical is a corrosive, irritant and highly toxic. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested, contact the poisons information centre on 13 11 26. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Only trained personnel should undertake clean up
- Contact emergency services if spill cannot be contained or there is any risk of it spilling from site
- Clear area of unprotected personnel
- Prevent spill entering drains or waterways
- Contain spillage then collect and place in suitable containers for disposal
- Avoid generating dust

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FLUORIDE WASTE CONTROL

Any fluoride room liquid spillage is contained in the bunded area within the room. When a high level is reached in the floor sump, as monitored & recorded in the SCADA system. The operator and an assistant using appropriate PPE transfers the diluted fluoride waste into a container via the dedicated pump. The waste is transported to Essential Water's toxic waste containment site at Broken Hill City Council's waste depot.

When discharging at the depot, the operator creates a small bunded area for the liquid to slowly discharge into then covers with soil prior to leaving the site.

Any empty fluoride bags and any fluoride dust spoil is double bagged and also disposed of at Essential Water's toxic waste containment site at the Broken Hill City Council's waste depot. The bags are covered with soil prior to leaving site.

3.1.4 Response to Sodium Hypochlorite Spill

Sodium Hypochlorite is supplied in 200L drums. The chemical is a DG Class 8. The chemical is a corrosive, irritant and highly toxic. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested or in contact with eyes, contact the poisons information centre on 13 11 26. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways

3.1.5 Response to Sulphuric Acid Spill

98% Sulphuric Acid is supplied via bulk tanker and decanted into the 20,000L vessel in accordance with procedures. The chemical is a DG Class 8 and highly corrosive which can cause severe burns to skin or permanent damage if to eyes. If ingested do not induce vomiting, pulmonary oedema and death may occur. Toxic gases may evolve if heated to decomposition. Refer to SDS for suitable PPE and Essential Energy's permit system to enter the acid plant room or perform work.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting. If inhaled remove from contaminated area. To protect rescuer, use full-face Type B-Class P2, (inorganic and acid gas, particulate) respirator.

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Spill management:

- Refer immediately to CEOP8252.01 Sulphuric Acid Emergency for major and minor leaks
- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if there is risk of acid escaping from bunded acid room area or there is any risk of it spilling from site
- Ventilate area where possible
- For minor spills contain spillage, then cover / absorb spill with sodium bicarbonate or 50-50 mixture of sodium carbonate and calcium hydroxide. Collect for completed neutralisation and appropriate disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.1.6 Response to Hydrated Lime Spill

Hydrated lime is supplied in powder form via bulk tanker and mechanically transferred into the 60T silo. The chemical is not a dangerous good but is an irritant to eyes skin and respiratory system. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with plenty of water and seek medical advice. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical spilling from site
- Prevent spill entering drains or waterways
- Contain spillage, then collect in suitable containers for disposal.

3.1.7 Response to Chlorine Gas Escape

Liquid chlorine is supplied to the WTP via 920kg drums and also 70gk cylinders are held in the chlorine room for later dispatch to Menindee as required. The chlorine drum room is a secure site, with SCADA alarms alert when personnel enter the room.

Chlorine drums and cylinders are very robust. In the vent of chlorine gas escape within the chlorine plant room at Mica St from the chlorination system fittings or pipework, an emergency drum shutoff device will activate which will shut off the drum valve. This system is tested weekly by the Mica St Operator.

Chlorine has a HAZCHEM rating of 2.3 and is a highly poisonous greenish-yellow gas that is heavier than air. The colour becomes only visible at concentrations many times higher than the danger level. dangerous good but is an irritant to eyes skin and respiratory system. Refer to SDS for suitable PPE.

If contact with eyes occurs, flush with tepid water or with sterile saline solution, hold eyes apart and irrigate for 15 minutes. Seek medical attention. If contact with skin or hair occurs, remove contaminated clothing and gently flush skin and hair with running water for 15 minutes. Do not

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apply any form of direct heat. If liquid chlorine is ingested do not induce vomiting, give glass of water and seek medical attention immediately.

Spill management refer:

- CEOP8253 – Emergency Response – Chlorine Gas
- CEOF8163 – Major Chlorine Leak – Gas Concentrations Chart
- CEOF8164 – Minor Chlorine Leak Isolate Supply
- CEOP8253 – Attachment Chlorine Emergency

An extract from CEOP8253 – Attachment Chlorine Emergency follows:

MAJOR LEAK (Gas Cloud Visible)

1. Leave the danger area.
2. Do not approach the leak source, a full chemical protection suit & BA is required
3. Alert any personnel in the area – Evacuate across & up wind
4. **Call Fire Brigade, Ph 000**
5. Call Water Supply & Quality Co-ordinator (WS&QCO) – Brad Colley
6. Call Manager Water Supply & Quality
7. Call Head of Water Operations - John Coffey, Business Change Manger (Water) - Ross Berry, Manager Operations (Water) – Kym Maddern
8. Brief Emergency Services
9. With assistance of qualified standby person, isolate at drum valve using full BA & PPE
10. Respond as directed by Fire Brigade Controller
11. Fire brigade will use fog nozzles downwind to dilute chlorine gas cloud
12. Police will set up access perimeter

MINOR LEAK (Chlorine can be smelled but not seen)

1. Alert all nearby personnel – evacuate across & up wind
2. Arrange immediate attendance of second qualified person. Wearing full BA, locate the leak and isolate at the drum valve.
3. Ensure adequate ventilation.

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3.1.8 Response to Liquid Aluminium Sulphate Spill

Liquid aluminium sulphate is delivered to site via 36T B-Double bulk tankers and transferred into three 10,000L tanks within a bunded area. The chemical is not a dangerous good but rated as an irritant to eyes and skin. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- For minor spills contain spillage, then cover / absorb spill with sodium bicarbonate or 50-50 mixture of sodium carbonate and calcium hydroxide. Collect for completed neutralisation and appropriate disposal
- Prevent spill entering drains or waterways
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical spilling from site.

3.1.9 Response to Powdered Activated Carbon Spill

Powdered Activated Carbon (PAC) is supplied in 500kg bulka bags. The bags are loaded into a batching system which provides a chemical solution which is pumped to the dose point. PAC is not a hazardous chemical, but it is combustible. PAC dust may form explosive mixtures with air. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- Contain spillage, then collect and place in suitable containers for disposal. Eliminate all ignition sources
- Prevent spill entering drains or waterways
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site.

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3.1.10 Response to Magnafloc LT425 Spill

Magnafloc LT425 is supplied in 1000L bulk pallet tanks. The tank batches into a batching system which provides a chemical solution which is pumped to the dose point. LT425 is not a hazardous chemical. LT425 is stored in a batching room with sufficient sump containment and SCADA alarm to prevent discharge from room. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised to stop by a Poisons Information Centre on 13 11 26 or a doctor. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- Contain spillage, then cover / adsorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Prevent spill entering drains or waterways
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site.

3.1.11 Response to Magnafloc LT20 Spill

Magnafloc LT20 is supplied in pallets of 25kg bags. A single bag is loaded into a batching system which provides a chemical solution which is pumped to the dose point. LT20 is not a hazardous chemical. LT20 is stored in a batching room with sufficient sump containment and SCADA alarm to prevent discharge from room. Down-stream of the batching room is the emergency dam hence there is no risk of spill leaving site. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised to stop by a Poisons Information Centre on 13 11 26 or a doctor. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Contain solution spillage, then cover / adsorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Contain powder spillage, then collect and place in suitable containers for disposal
- Prevent spill entering drains or waterways.

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3.2 Menindee Water Treatment Plant

The Menindee WTP is located within the pumping station grounds across the railway line from Menindee. Access to the site is via Pamamaroo St Menindee.

The WTP has an operator on site each day for a number of hours to batch chemicals and perform plant performance checks. The operator is trained in chemical handling and response to chemical spills.

The following bulk chemicals are store at this location:

Menindee Water Treatment Plant – via Pamamaroo St Menindee			
Chemical	Class	Packing Group	Maximum Quantity
Sodium SilicoFluoride	6.1	III	1,000kg
Sodium Hypochlorite	8	II	400Lts
Powdered activated carbon	None	None	150kg
Dense Soda Ash	None	None	8,000kg
Granular Aluminium Sulphate	None	None	29,400kg
Cl2 Chlorine Liquid	2.3 & 8	None	2 * 70kg
Caustic Soda Liquid	7.3	II	400Lts
Citric Acid	None	None	400kg

3.2.1 Response to Sodium SilicoFluoride Spill

Sodium SilicoFluoride is supplied in 20kg bags. Only qualified fluoride operators or personnel in continuous supervision from a qualified fluoride operator may handle the chemical. The chemical is a DG Class 6.1 poison. The chemical is a corrosive, irritant and highly toxic. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested, contact the poisons information centre on 13 11 26. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Only trained personnel should undertake clean up
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Clear area of unprotected personnel
- Prevent spill entering drains or waterways
- Contain spillage then collect and place in suitable containers for disposal
- Avoid generating dust.

FLUORIDE WASTE CONTROL

The waste fluoride bags and any waste fluoride are double bagged and transported to Mica St WTP fluoride room waste bins. When full these waste bins are transported to Essential Water’s toxic waste containment site at Broken Hill City Council’s waste depot.

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When discharging at the depot, the operator covers any solid waste with soil or creates a small bunded area for the liquid to slowly discharge into then covers with soil prior to leaving the site.

3.2.2 Response to Sodium Hypochlorite Spill

Sodium Hypochlorite is supplied in 200L drums. The chemical is a DG Class 8. The chemical is a corrosive, irritant and highly toxic. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested or in contact with eyes, contact the poisons information centre on 13 11 26. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.2.3 Response to Powdered Activated Carbon Spill

Powdered Activated Carbon (PAC) is supplied in 25kg bags by the pallet. The bags are loaded into a batching system which provides a chemical solution which is pumped to the dose point. PAC is not a hazardous chemical, but it is combustible. PAC dust may form explosive mixtures with air. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- Contain spillage, then collect and place in suitable containers for disposal. Eliminate all ignition sources
- Prevent spill entering drains or waterways
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site.

3.2.4 Response to Dense Soda Ash Spill

Dense Soda Ash is supplied in 25kg bags by the pallet. The bags are loaded into a batching tank

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and mixed which provides a chemical solution which is pumped to the dose point. Soda Ash is not a hazardous chemical but is an irritant. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. If ingested contact a Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- Contain spillage, then collect and place in suitable containers for disposal. Avoid creating dust
- Prevent spill entering drains or waterways
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site.

3.2.5 Response to Granular Aluminium Sulphate Spill

Granular Aluminium Sulphate (Alum) is supplied in 25kg bags by the pallet. The bags are loaded into a batching tank and mixed which provides a chemical solution which is pumped to the dose point. Alum is not a hazardous chemical but is an irritant. Refer to SDS for suitable PPE.

If contact with eyes occurs, rinse immediately with running water until advised to stop by a Poisons Information Centre, a doctor or for at least 15 minutes. If inhaled remove from contaminated area. To protect rescuer, use full-face Type B, (inorganic and acid gas) respirator. Apply artificial respiration if not breathing. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. If ingested contact Poisons Information Centre on 13 11 26 or a doctor. Do not induce vomiting.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Prevent spill entering drains or waterways
- Caution site spill maybe slippery
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site.

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3.2.6 Response to Chlorine Gas Escape

Liquid chlorine is supplied to the WTP via 70gk cylinders are held in the chlorine plant room. Chlorine cylinders are very robust. Chlorine has a HAZCHEM rating of 2.3 and is a highly poisonous greenish-yellow gas that is heavier than air. The colour becomes only visible at concentrations many times higher than the danger level. It is an irritant to eyes skin and respiratory system. Refer to SDS for suitable PPE.

If contact with eyes occurs, flush with tepid water or with sterile saline solution, hold eyes apart and irrigate for 15 minutes. Seek medical attention. If contact with skin or hair occurs, remove contaminated clothing and gently flush skin and hair with running water for 15 minutes. Do not apply any form of direct heat. If liquid chlorine is ingested do not induce vomiting, give glass of water and seek medical attention immediately.

Spill management refer:

MAJOR LEAK (Gas Cloud Visible)

- 1 Leave the danger area
- 2 Do not approach the leak source, a full chemical protection suit & BA is required
- 3 Alert any personnel in the area – Evacuate across & up wind
- 4 **Call Fire Brigade, Ph 000**
- 5 Call Water Supply & Quality Co-ordinator (WS&QCO) – Brad Colley
- 6 Call Manager Water Supply & Quality (MWS&Q),
- 7 Call Head of Water Operations – John Coffey, Business Change Manager (Water)-Ross Berry, Manager Operations (Water) -Kym Maddern
- 8 Brief Emergency Services
- 9 With assistance of qualified standby person, isolate at drum valve using full BA & PPE
- 10 Respond as directed by Fire Brigade Controller
- 11 Fire brigade will use fog nozzles downwind to dilute chlorine gas cloud
- 12 Police will set up access perimeter.

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MINOR LEAK (Chlorine can be smelled but not seen)

- 1 Alert all nearby personnel – evacuate across & up wind.
- 2 Arrange immediate attendance of second qualified person. Wearing full BA, locate the leak and isolate at the cylinder valve.
- 3 Ensure adequate ventilation.

3.2.7 Response to Caustic Soda Spill

Caustic Soda is supplied in 200L drums. The chemical is a DG Class 8. The chemical is a severe corrosive and can cause severe burns. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested contact the poisons information centre on 13 11 26 or a doctor. If swallowed, do not induce vomiting. Rinse mouth out with water and give plenty of water to drink. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if spill cannot be contained or there is any risk of it spilling from site.
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.2.8 Response to Citric Acid Spill

Citric Acid is supplied in 200L drums. The chemical not classed as a dangerous good. The chemical is an irritant to the eyes and skin with low toxicity. Refer to SDS for suitable PPE.

If ingested contact the poisons information centre on 13 11 26 or a doctor. If swallowed, do not induce vomiting. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor. If inhaled remove from contaminated area.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if spill cannot be contained or there is any risk of it spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite,

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sand or similar), collect and place in suitable containers for disposal

- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.3 Sunset Strip Water Treatment Plant

The Sunset Strip WTP is located approximately 95km from Broken Hill via the Menindee Rd. It is located across the railway line from the village of Sunset Strip. The WTP operator attends site twice per week and more often if required. The site is monitored continuously via SCADA from the Broken Hill Mica St WTP operator.

The following bulk chemicals are store at this location:

Sunset Strip Water Treatment Plant – approximately 95km from Broken Hill			
Chemical	Class	Packing Group	Maximum Quantity
Caustic Soda Liquid	7.3	II	400Lts
Citric Acid	None	None	400kg
Sodium Hypochlorite	8	II	400Lts

3.3.1 Response to Caustic Soda Spill

Caustic Soda is supplied in 200L drums. The chemical is a DG Class 8. The chemical is a severe corrosive and can cause severe burns. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested contact the poisons information centre on 13 11 26 or a doctor. If swallowed, do not induce vomiting. Rinse mouth out with water and give plenty of water to drink. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if spill cannot be contained or there is any risk of it spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.3.2 Response to Citric Acid Spill

Citric Acid is supplied in 200L drums. The chemical not classed as a dangerous good. The chemical is an irritant to the eyes and skin with low toxicity. Refer to SDS for suitable PPE. If ingested contact the poisons information centre on 13 11 26 or a doctor. If swallowed, do not induce vomiting. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor. If inhaled remove from contaminated area.

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Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if spill cannot be contained or there is any risk of it spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.3.3 Response to Sodium Hypochlorite Spill

Sodium Hypochlorite is supplied in 200L drums. The chemical is a DG Class 8. The chemical is a corrosive, irritant and highly toxic. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested or in contact with eyes, contact the poisons information centre on 13 11 26. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel
- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

3.4 Menindee Pumping Station – Pipeline Chlorinator

The Menindee Pipeline Chlorinator is located within the pumping station grounds across the railway line from Menindee. Access to the site is via Pamamaroo St Menindee. The plant has chlorine gas escape alarms that are monitored from the Mica St WTP continuously.

The pumping station operator attends site each day for a number of hours to check alarms and record flow meter readings. The operator is chlorine. Chlorine stored at this location:

Menindee Pumping Station – Pipeline Chlorinator			
Chemical	Class	Packing Group	Maximum Quantity
Cl ₂ Chlorine Liquid	2.3 & 8	None	4 * 920kg

Liquid chlorine is supplied to the WTP via 920kg drums are held in the chlorine drum room. The chlorine drum room is a secure site, with SCADA alarms to monitor gas escape.

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Chlorine has a HAZCHEM rating of 2.3 and is a highly poisonous greenish-yellow gas that is heavier than air. The colour becomes only visible at concentrations many times higher than the danger level. Refer to SDS for suitable PPE.

If contact with eyes occurs, flush with tepid water or with sterile saline solution, hold eyes apart and irrigate for 15 minutes. Seek medical attention. If contact with skin or hair occurs, remove contaminated clothing and gently flush skin and hair with running water for 15 minutes. Do not apply any form of direct heat. If liquid chlorine is ingested do not induce vomiting, give glass of water and seek medical attention immediately.

Chlorine gas leak management:

MAJOR LEAK (Gas Cloud Visible)

- 1 Leave the danger area
- 2 Do not approach the leak source, a full chemical protection suit & BA is required
- 3 Alert any personnel in the area – Evacuate across & up wind
- 4 **Call Fire Brigade, Ph 000**
- 5 Call Water Supply & Quality Co-ordinator (WS&QCO) – Brad Colley
- 6 Call Manager Water Supply & Quality, Head of Water Operations- John Coffey, Business Change Manager (Water)- Ross Berry, Manager Operations (Water) – Kym Maddern
- 7 Brief Emergency Services
- 8 With assistance of qualified standby person, isolate at drum valve using full BA & PPE
- 9 Respond as directed by Fire Brigade Controller
- 10 Fire brigade will use fog nozzles downwind to dilute chlorine gas cloud
- 11 Police will set up access perimeter.

MINOR LEAK (Chlorine can be smelled but not seen)

- 1 Alert all nearby personnel – evacuate across & up wind
- 2 Arrange immediate attendance of second qualified person. Wearing full BA, locate the leak and isolate at the drum valve
- 3 Ensure adequate ventilation.

3.5 Silverton, Hebbard St Tank and Wyman St Tank Chlorinators

Sodium Hypochlorite is supplied in 200L drums. The chemical is a DG Class 8. The chemical is a corrosive, irritant and highly toxic. It can cause permanent damage to eyes or convulsions and death if ingested. It may evolve toxic gases if heated Refer to SDS for suitable PPE.

If ingested or in contact with eyes, contact the poisons information centre on 13 11 26. If contact with eyes occurs flush eyes for at least 15 minutes. If contact with skin or hair occurs, remove contaminated clothing and flush skin and hair with running water. Continue until advised by Poisons Information Centre or a doctor.

Spill management:

- Use PPE (refer SDS)
- Clear area of unprotected personnel

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- Contact emergency services (Fire Brigade on 000) if there is risk of chemical solution spilling from site
- Ventilate area where possible
- Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal
- Only trained personnel should undertake clean up
- Prevent spill entering drains or waterways.

4 INCIDENT PROTOCOLS

4.1 Inventory of pollutants

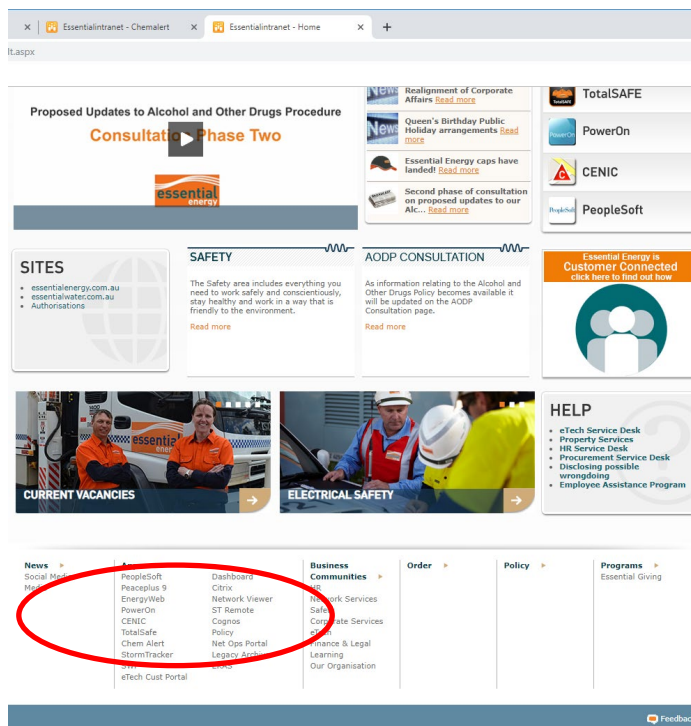
Essential Water maintains a 'ChemAlert' database to comprehensively record chemicals stored at each facility. The database records the location and quantities of chemicals stored at each site and provides employees with access to SDS sheets for each recorded chemical.

Refer to previous sections for a list of bulk chemicals currently stored at each facility.

4.1.1 Accessing an SDS sheet on the ChemAlert database

Any employee, contractor or labour hire contractor who requires a SDS and has access to ChemAlert should take the following steps:

- 1 Go to Essentialnet – Then on the very bottom click on ChemAlert



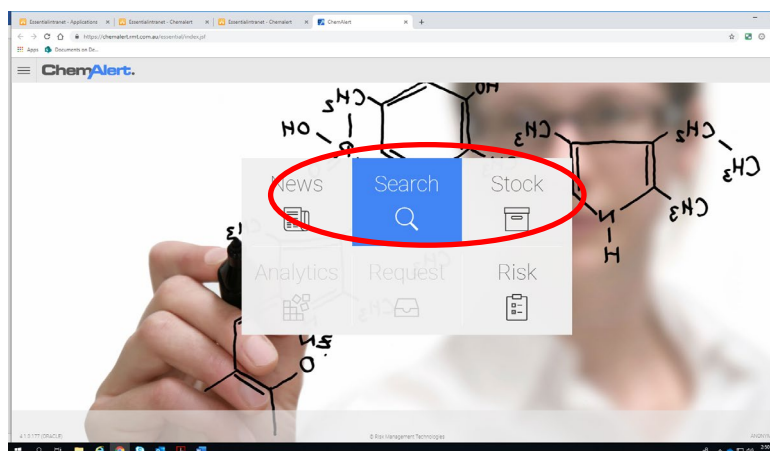
Or Go to Essentialnet – Then Apps and Click on the ChemAlert App



- 2 Click on ChemAlert under Launch and you will be taken to the homepage for

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ChemAlert



3 You can start your search.

4.2 Safety Equipment

Emergency supplies and resources are available from the Essential Water Block 10 Field Service Centre or the Mica Street Water Treatment Plant.

- Half face respirators & spare dust & fume filters
- Full face respirators & spare dust & fume filters
- Dust Masks
- Disposable coveralls
- Goggles
- Goggles with face mask
- Face shield
- Safety glasses (clear or shaded)
- Wide brim hats
- Knee pads
- Safety Helmets
- Earmuffs and plugs
- Chemical suits
- Respirators
- Boots
- Self-contained breathing apparatus
- Toxic gas monitors
- Fall arrest devices
- Rescue tripods and winches
- Barricades
- Gloves (PVC, Rubber, Leather, cotton, Kevlar, Nitrile)
- Gaiters
- PVC trousers and jackets

4.3 Notification of pollution incidents

4.3.1 When is notification required?

Notification of a pollution incident is required if there is a risk of 'material harm to the environment' or human health.

Risk of 'material harm to the environment' is defined in section 147 of the POEO Act as:

- a) "harm to the environment is material if:
 - (i) It involved actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
 - (ii) It involves actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as 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."

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(Section 147, POEO Act, 1997)

4.3.2 Information that must be provided to authorities when notifying:

When reporting and notifying authorities, employees must provide the following details:

- the time, date, nature and duration of the incident
- the location of the place where pollution is occurring or is likely to occur
- the nature, estimated quantity or volume and the concentration of any pollutants involved (if known)
- the circumstances in which the incident occurred, including the cause of the incident (if known)
- the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution.

**Any information required that is not known at the time the incident is notified must be provided when it is known.*

(Reference: Section 150, POEO Act, 1997 as amended)

4.3.3 Mandatory notifications:

In the event of a pollution incident that poses a risk of material harm, it is **mandatory** that Essential Water contacts the following agencies:

- NSW Environment Protection Authority
- WorkCover NSW
- NSW Fire & Rescue
- NSW Department of Health
- Broken Hill City Council.

(Refer to section 4.9.2 for contact numbers for the above agencies)

It is important that **ALL** of the above agencies are notified in the event of a pollution incident, even if it is believed that an agency may not need to attend the incident. Essential Water has a responsibility to provide information to each of the five agencies; and it is the responsibility of each respective agency to determine whether they need to attend the incident.

Notification of the emergency to outside reporting agencies (other than HAZMAT emergency notifications) is undertaken under Notification of Pollution Incident Protocol – Ref Attachment 2

4.3.4 Public notifications where there is a risk to drinking water quality:

In the event of a pollution incident, Essential Water's priority is to ensure that the quality of drinking water supplied to customers is not compromised. In the event of an incident that poses a real or perceived risk to customers and consumers, Essential Water ensure that the public are notified and informed of the level of risk and appropriate precautions.

Public notifications are to be conducted in accordance with policy **CEOP8400** – Monitoring and performance against ADWG.

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Notification of exceedances is to be conducted in accordance with Manager Community Relations protocols. Generally, the notification can be via; Radio, Newspaper advertisement, Television advertisement, and may also include letter drop of the affected area depending on the nature of the incident and the escalation requirement under the Business Continuity Plan – Water Operations

The public notification action will be coordinated by Far West Local Health District with consultation from the Group Manager Water and the Manager Community Relations and relevant stakeholders.

Situations requiring public notification include:

- Supply interruptions
- Water treatment does not meet relevant guidelines and there is a possible risk
- Treatment fails, or a reticulation system is compromised
- Monitoring is not carried out at the recommended frequency, hence there is no assurance that the supply is safe
- Monitoring is not carried out using recommended testing procedures
- Adopted levels of service cannot be met (eg. because of floods, cyclone, drought etc.).

Means of public notification may include one or a combination of the following methods:

- Door knocks
- Issuing of media releases or warnings via local media
- Letter drops
- Updates and warnings issued via Essential Water's website (www.essentialwater.com.au).

4.4 Minimising harm to persons on the premises

Ensuring the safety of Essential Water staff, contractors and visitors to our sites and containing a pollution incident to the minimum extent possible is critical.

To minimise risk of harm to persons at the sites covered by the plan, Essential Water has the following procedures:

- Evacuation and muster points
- HIRAC form to be completed by employees, contractors and visitors to the site
- Contractor / Visitor inductions
- Personal Protective Equipment available to all
- Fire safety equipment
- Back-up generators and alternative power sources
- Telecommunications equipment
- Personal Locator Beacons.

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4.5 Actions to be taken during or immediately after a pollution incident

Employees should follow the procedure itemised below during and after a pollution incident:

- 1 Identify pollution source
- 2 Make an assessment of the level of risk to human health or the environment (If there is an **immediate** life-threatening risk, call **000**)
- 3 Following initiation of any emergency services as required, immediately notify primary contacts; Water Supply & Quality Coordinator or Manager Water Supply & Quality or alternative contacts (Refer Notification Protocol)
Provide full details of the incident and complete TotalSAFE incident form
- 4 Primary contact or delegate immediately assesses if the incident is a mandatory immediate notification event and as required, notifications to the five emergency reporting agencies and commences business continuity plan escalation procedures
- 5 The employee:
 - Takes measures to contain the leak, spill or emission. (Do not proceed if there is a risk to yourself, fellow employees or members of the public)
 - Cleans up the site, ensuring to dispose of any contaminated soil or equipment as applicable. (In accordance with SSHE manual: Hazardous materials CECM1000.10)
 - Keeps the Incident Controller advised of any increased risks or events relating to the incident
 - Records the particulars of the incident in TotalSAFE within 24 hours. (In accordance with SSHE Manual: TotalSAFE CECM1000.09)
 - Adjusts the HIRAC form evaluating any changed risks and controls.
- 6 The Incident Controller records all actions and notifications. Management later conducts a review and evaluation of the pollution response.

4.6 Staff training and education

All Essential Water employees are to be made aware of the implications of the chemical incident response management plans.

Staff will be trained to ensure:

- All staff members can locate a copy of the chemical incident response management plan
- All staff members know how to identify a chemical and chemical pollution incident that poses or threatens risk of material harm to the environment or human health
- All staff members know who they must notify in the event of a chemical and chemical pollution incident
- All staff members are aware of key information that must be reported when notifying external agencies
- All staff members can respond to a chemical and chemical pollution incident in a safe, timely and effective manner
- All staff members adequately report and record all chemical and chemical pollution incidents.

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Methods of staff training may incorporate the following methods:

- Toolbox meetings
- New staff and contractor inductions
- E-Talk updates
- Desktop scenarios
- Training sessions
- Essential Knowledge and Skills (EKAS). Internal training system.

Training records are to be maintained for all staff members attending training and participating in desktop scenarios in relation to the plan.

4.7 Testing the plan

The chemical incident and chemical pollution incident response management plan is to be routinely tested **once every 12 months**.

It is important that testing is carried out that covers all components of the plan to ensure that it is capable of being implemented in a workable and effective manner.

Essential Water aims to test the plans by undertaking desktop scenarios, practical exercises and drills involving both internal staff members and external emergency agencies.

Following an exercise or scenario to test the plan, a full review is to be undertaken to examine the effectiveness of the response to the drill/scenario. The review shall include all involved staff members and participants from external agencies.

Documentation that must be recorded following any testing of the plan is included in section 4.8 – Record keeping.

4.8 Record keeping

4.8.1 Following an incident:

Details of all incidents (including near misses) **must be recorded** in Essential Energy's TotalSAFE system within 24 hours following an incident. (Refer to HSE manual: Handbook – **CECM1000.90**).

Details of all incidents must be recorded and kept in accordance with Essential Energy's Incident Management HSE manual – **CECM1000.03**.

4.8.2 Drills, desktop scenarios & staff training

Records are to be maintained of dates on which the plan has been tested, including the names of all staff members involved.

Details of any amendments, updates or revisions to the plan as a result of a drill, scenario or staff training are to be maintained, including the date on which the relevant section/s were updated.

The date and name of staff attendance at any training, educational session or toolbox meeting in relation to the plan is to be recorded via a training attendance form.

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4.9 Emergency Contacts Directory

NOTE TO ALL EMPLOYEES:

Contact details listed below are for the use of internal staff **only** during the event of a pollution incident or chemical emergency.

Contact details are **not to be released** to members of the public.

4.9.1 Internal staff emergency contacts:

Name /Position:	Contact number:
John Coffey Head of Water Operations	Ph: 8082 5307 Mob: 0419 495 831
Brad Colley Water Supply & Quality Co-ordinator	Ph: 8082 5892 Mob: 0428 879 064
Ross Berry Business Change Manager (Water)	Mob:0432 238 887
Kym Maddern Manager Operations (Water)	Ph: 8082 5850 Mob: 0409 711 326
Aron Molloy Manager Engineering and Technical (Water)	Ph: 8082 5873 Mob: 0409 352 854
Murray Jones SLH Menindee Pumping Station	Ph: 8091 4201 Mob: 0428 891 073
Mica St Control Room Mica St Water Treatment Operator	Ph: 8082 5878 Mob: 0418 628 692
Andy McInness Menindee Water Treatment Plant Operator	Ph: 8091 4201 Mob: 0437 012 900
Paul Hoskins Mica St Water Treatment Plant Supervisor	Ph:8082 5878 Mob: 0437 872 688
Richard Halls Menindee Water Treatment Plant Operator	Ph: 8091 4201 Mob:0409 057 816

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4.9.2 External agencies emergency contacts:

*Denotes MANDATORY agencies that must be notified in the event of a pollution incident.
Contact details to be reviewed annually.

	Name / Organisation:	Contact details:	After Hours:
*MANDATORY notification of the these agencies in the event of a pollution incident:	*NSW Environmental Protection Authority (EPA)	Environment Line: Ph: 131 555	Environment Line: Ph: 131 555 (24 Hours)
	*Broken Hill City Council	Administration Centre: Ph: 8080 3300 Alternative contact: Michael Cain Operations Manager Ph: 0418 867 048 Email: michael.cain@brokenhill.nsw.gov.au	On-call number Ph: 0408858 493 (after 3.30pm daily and weekends) Alternate: Michael Cain Ph: 0418 867 048
	*NSW Department of Health	Primary Contact: David Ferrall Senior Environmental Health Officer Population Health Unit Far West Local Health District Ph: (08) 8080 1504 E-mail: dferrall@gwahs.health.nsw.gov.au	Ph: 0409 462137
		Alternate contact: Jason Harwood Environmental Health Officer Population Health Unit Far West Local Health District Ph (08) 8080 1486	Ph: 0409 746311
	*WorkCover NSW	Ph: 13 10 50	Ph: 13 10 50
*NSW Fire & Rescue (Local fire station)	Broken Hill Fire Station Ph: 8087 2233 (24 hours) Alternate contact: Thomas Clarkstone (Duty Commander Inspector) Ph: (02) 6953 6583 Email: Thomas.clarkstone@fire.nsw.gov.au	Broken Hill Fire Station Ph: 8087 2233 (24 hours) In emergency: 000	

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4.9.3 Other external agency contacts

Other external agency contacts (as applicable to nature of pollution incident)		
Name / Organisation:	Contact Details:	After Hours:
Broken Hill Police Station	In emergency: 000 Broken Hill Station	In emergency: 000 Broken Hill Station
State Emergency Service (SES)	Ph:13 25 00 Broken Hill Command Centre: Ph: 8082 5500	Ph:13 25 00
Greg McMahon Emergency Management Officer Far West Emergency Management Region	Ph: 8082 7210 Mobile: 0427 662 493 Email: mcma1gre@police.nsw.gov.au Far West Local Emergency Management District PO Box 793 Broken Hill, NSW 2880	Ph: 0427 662 493
NSW Department Primary Industries	Ph: 80 88 9300 Regional Vet Officer: Ph: 8088 9336 / 0427 107 891	Regional Vet Officer: 0427 107 891
Ambulance Service	In emergency: 000 Ph: 13 12 33	In emergency: 000
Roads & Maritime Service	Ph: 131 700	Ph: 131 700
National Parks & Wildlife	Ph: 8080 3200 Far West Regional Officer: 183 Argent Street	
Pastoralists Association of West Darling	Ph: 8087 33 22 E-mail: pawd01@bigpond.net.au	
Western Livestock Health & Pest Authority	Kevin Smith Ph: 8087 3378	
NSW Fisheries & Aquaculture	Head Office Ph: (02) 6391 3100 Fisheries inquiry line: Ph: 1300 550 474	
NSW Department of Public Works & Services	Ph: (02) 9372 8949	
NSW Office of Water	Ph: (02) 8281 7777 Ph: 1800 353 104	
NSW Department of Primary Industries	Dubbo Regional Office Ph: (02) 6881 1270	
NSW Land Property Management Authority	Tiff Brown Rangelands Management Officer – Broken Hill/Unincorporated Area Ph: (08) 8082 5203 E-mail: tiff.brown@lpma.nsw.gov.au	Ph: 0419 497 947

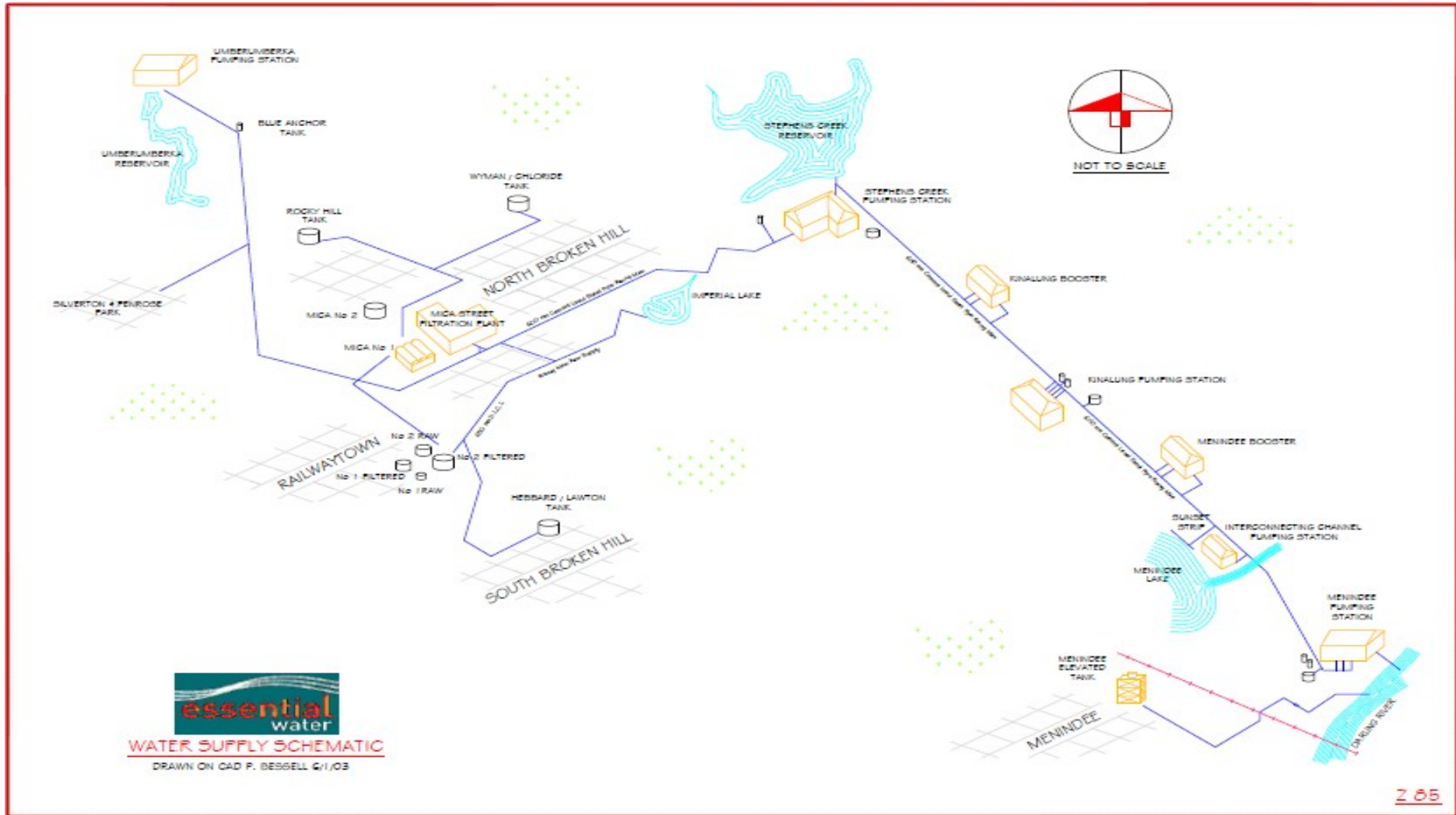
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5 ATTACHMENTS

- 1 Broken Hill Water Reticulation Schematic
- 2 Pollution incident notification protocol - Reservoirs

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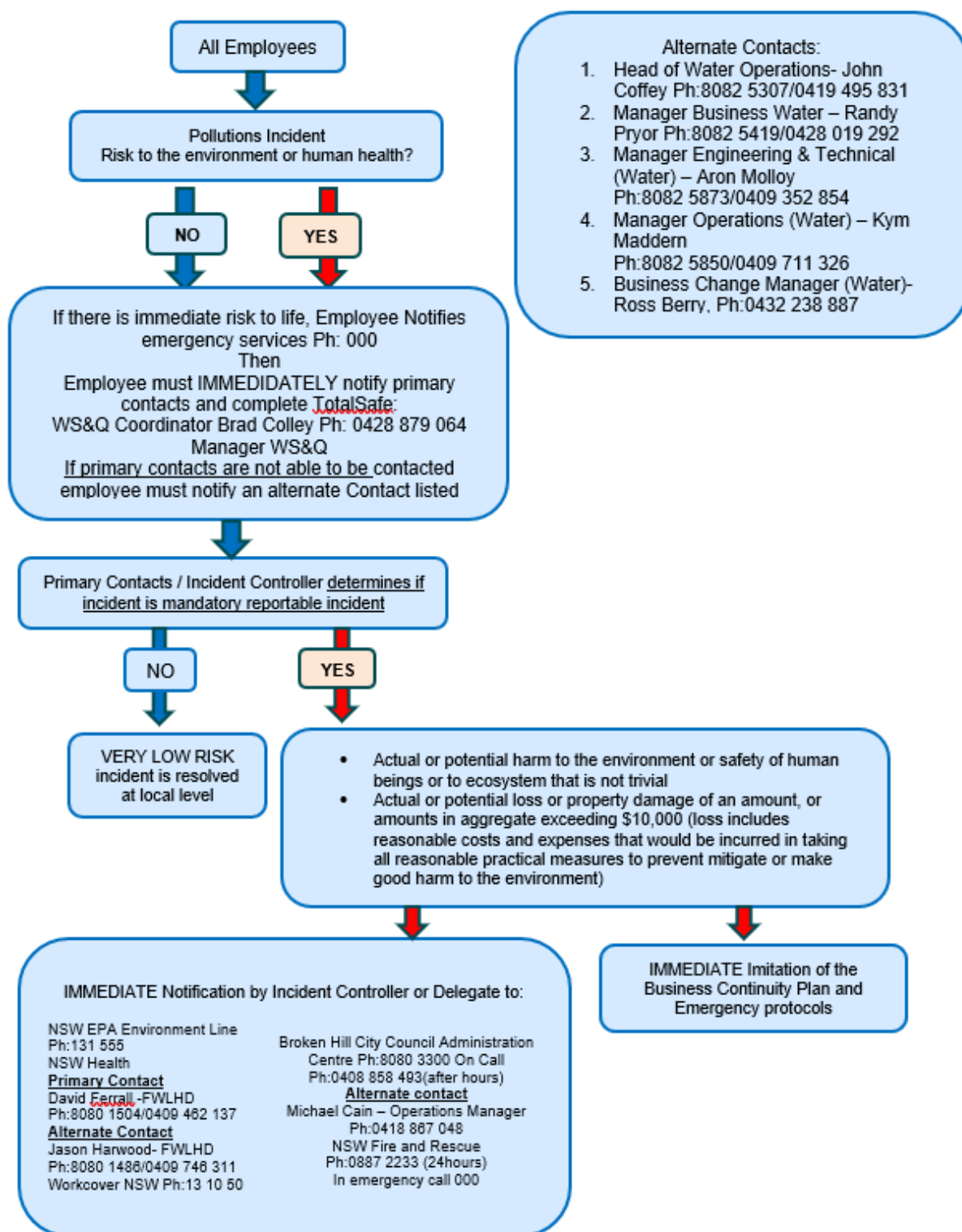
5.1 Attachment 1: Broken Hill Water Reticulation Schematic



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5.2 Attachment 2 – Notification Protocol for Pollution Incident – Water Treatment Plants

**Notification Protocol for Pollution Incidents:
Water Treatment Plants**



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6 KEY TERMS AND DEFINITIONS

ACT: Refers to the *Protection of the Environment Operations Act, 1997* (as amended).

ADWG: Refer to the Australian Drinking Water Guidelines, 2011. Provides water utilities across Australia with a set of aesthetic and health standards to ensure the health and safety of drinking water supplied to customers.

COMMERCIAL-IN-CONFIDENCE: This is a general sensitivity label to be applied to information assets that are not to be released outside of the organisation but are freely available to all employees and other personnel working directly for Country Energy. An example of the use of this sensitivity label would be its application to the corporate policies, forms, procedures, standards, manuals and guidelines to be applied across the organisation. For more information refer to Information Security Sensitivity Labelling and Handling CEC1096 and CEM7063.

EPA: NSW Environment Protection Authority

EPL: Environmental Protection Licence

MATERIAL HARM TO THE ENVIRONMENT: Risk of 'material harm to the environment' is defined in section 147 of the POEO Act as:

(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 involves actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amounts as 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.

POLLUTION: Under the *Protection of the Environment Operations Act, 1997*, defines pollution as:

- (a) Water pollution
- (b) Air pollution
- (c) Noise pollution
- (d) Land pollution

POLLUTION INCIDENT: The *Protection of the Environment Operations Act, 1997* defines a pollution incident as 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 the premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

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SENSITIVE ENVIRONMENT: A sensitive environment includes a drinking water catchment or domestic groundwater source, shell-fish growing areas, protected water bodies, ecological communities or conservation areas defined by legal and non-legal instruments, such as local environmental plans (LEP's), State environmental planning policies (SEPPs), national parks, work heritage parks, and Class P or Class S waters, waterways used for primary contact recreation, a recreation area of other area with high public exposure or associated health risk.

WTP: Water Treatment Plant

7 REFERENCES

Risk management & safety:

CECM1000.02 – SSHE Manual: Risk Management

CECM1000.21 SSHE Manual: Personal safety

CEOF1070.01 - Environmental Impact Assessment: Worksheet

CECM1000.70 – SSHE Manual: Environmental Impact Assessment – NSW

CECM1000.73 – SSHE Manual: Water

CEOF1070.02 – Review of environmental factors worksheet

Water Quality:

CEOP8325 – Water Supply and Quality – Water Quality

CEOP8317- Water Supply and Quality – Water samples

CECP1001- Corporate Policy – Drinking Water

CEOP8262 – Mica WTP chemical dosing

CEOP8249 – Water: Treatment chemicals

Incident Management:

CECP8253 – Mica WTP Emergency Response Chlorine

Gas CEOP8253 – Attachment Chlorine Emergency

CEOF8164 – Minor Chlorine Leak Isolate Supply

CEOF8162 – Chlorine training and drill log

CEOP8252.01 – Mica WTP – Sulphuric Acid Emergency CEOF8374 – Water: Customer incident Investigation

CECM1000.03 – SSHE Manual: Incident Investigation

CEOM7557 – Operations Manual: Business Continuity Plan: Broken Hill Operations (Far West Region)

CECM1000.75 – Waste

CECM1000.03 – SSHE: Hazardous materials

Customer & Community Notifications:

CEOP8329 – Operational Procedure: Water operations: Notify customers

COMMERCIAL-IN-CONFIDENCE

Records Management:

CEOP1060 – Records Management

Legislation:

Protection of the Environment Operations Act, 1997 (as amended)

Protection of the Environment Legislation Amendment Act, 2011

Protection of the Environment Operations (General) Amendment (Preparation of Pollution Incident Response Management Plans) Regulation 2012

External guidelines:

NSW Environmental Protection Authority, 2012. *Environmental guidelines: Preparation of pollution incident response management plans.*

8 REVISIONS

Issue Number	Section	Details of Changes in this Revision
2	All	Emergency Contact details and position titles