

# Storing and Handling Liquids: Environmental Protection

A guide to managing environmental risks associated with the storage and handling of liquid substances



# Today's Program

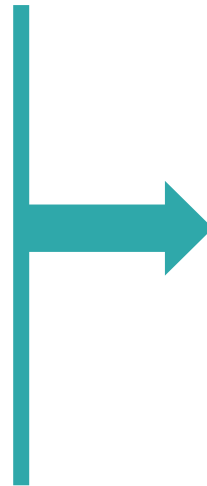
## Morning

Legal issues

Typical problems

## Afternoon

Solutions



**Action Plan  
development**



# NSW Environmental Legal Requirements



# Protection of the Environment Operations Act 1997

- Air pollution
- Land pollution
- Noise pollution
- Water pollution
- Waste transport and disposal



# Enforcement

## Appropriate Regulatory Authority

Department of  
Environment and  
Climate Change NSW



State and local government  
organisations including contractors



All premises and activities listed  
on Schedule 1 POEO Act

Local Council

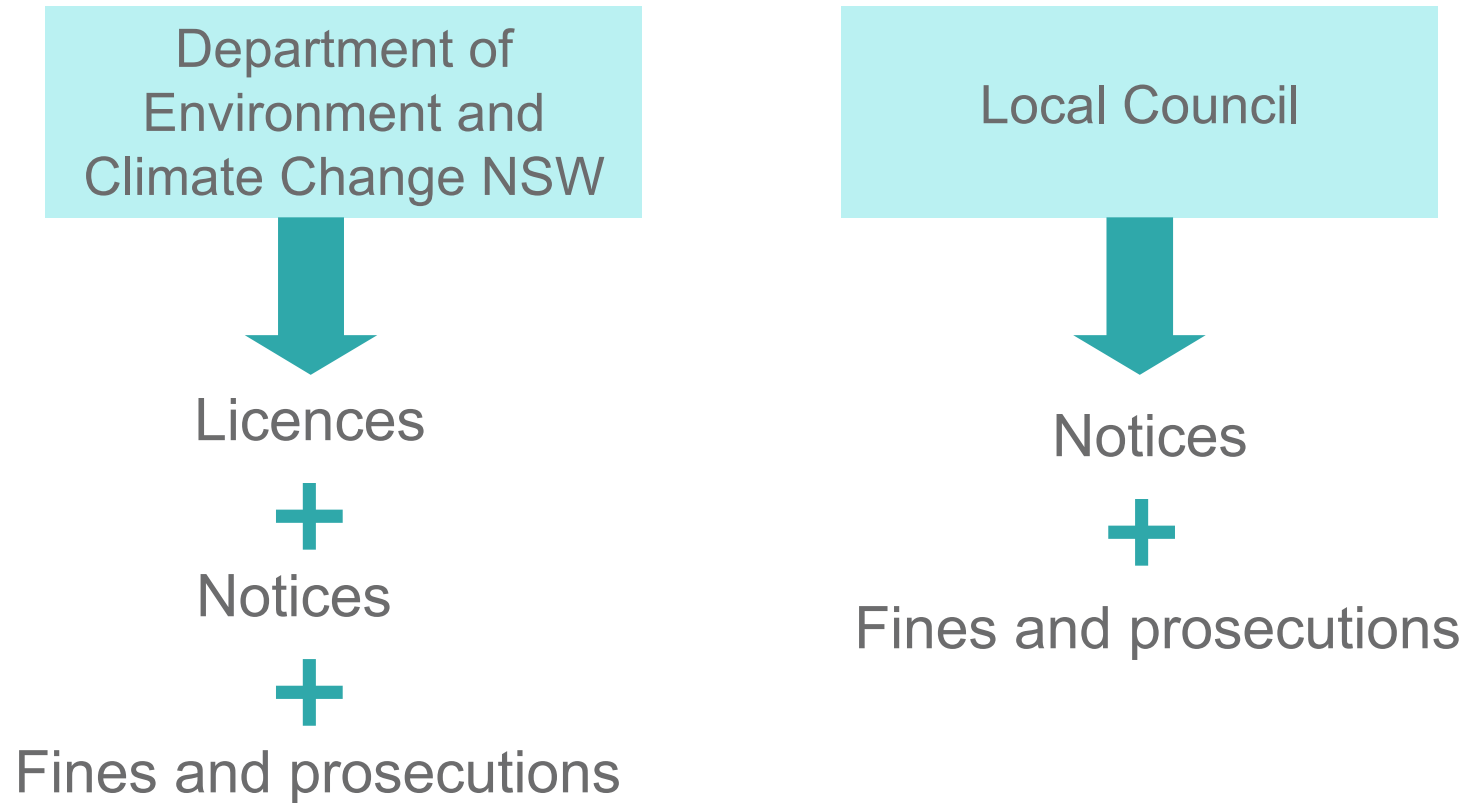


Everyone else:

Including most  
small-medium sized  
businesses and  
residential premises



# Enforcement Powers



# Who needs a licence?

**Any premises or activity that meets the  
threshold values set out in Schedule 1  
of the POEO Act 1997**



# Licence requirements

## All licences require that:

- Activities are carried out in a competent manner
- All equipment is maintained and operated in a proper and efficient manner





# Notices

**Clean Up**

**Prevention**

Administrative fee for issue  
\$320

Monitoring and enforcement  
costs can be charged

Fines for failure to comply =  
\$750 for individuals  
\$1500 for corporations  
(or prosecution)



# Offences

- **Tier 1 – willful or negligent**
- **Tier 2 – strict liability**
- **Tier 3 (on the spot fines issued for minor Tier 2 offences)**

Water

Land

Air

Waste

Noise



# Tier 2 Offences

## Maximum penalties:

**Individuals** = \$250,000 (plus \$60,000 a day for continuing offences)

**Corporations** = \$1million (plus \$120,000 per day for continuing offences)

Water

Land

Air

Waste

Noise



# Water Pollution

## 120 Prohibition of pollution of waters

- (1) A person who pollutes any waters is guilty of an offence.
- (2) In this section: ***pollute*** waters includes cause or permit any waters to be polluted.









# Which is water pollution?





# Water Pollution

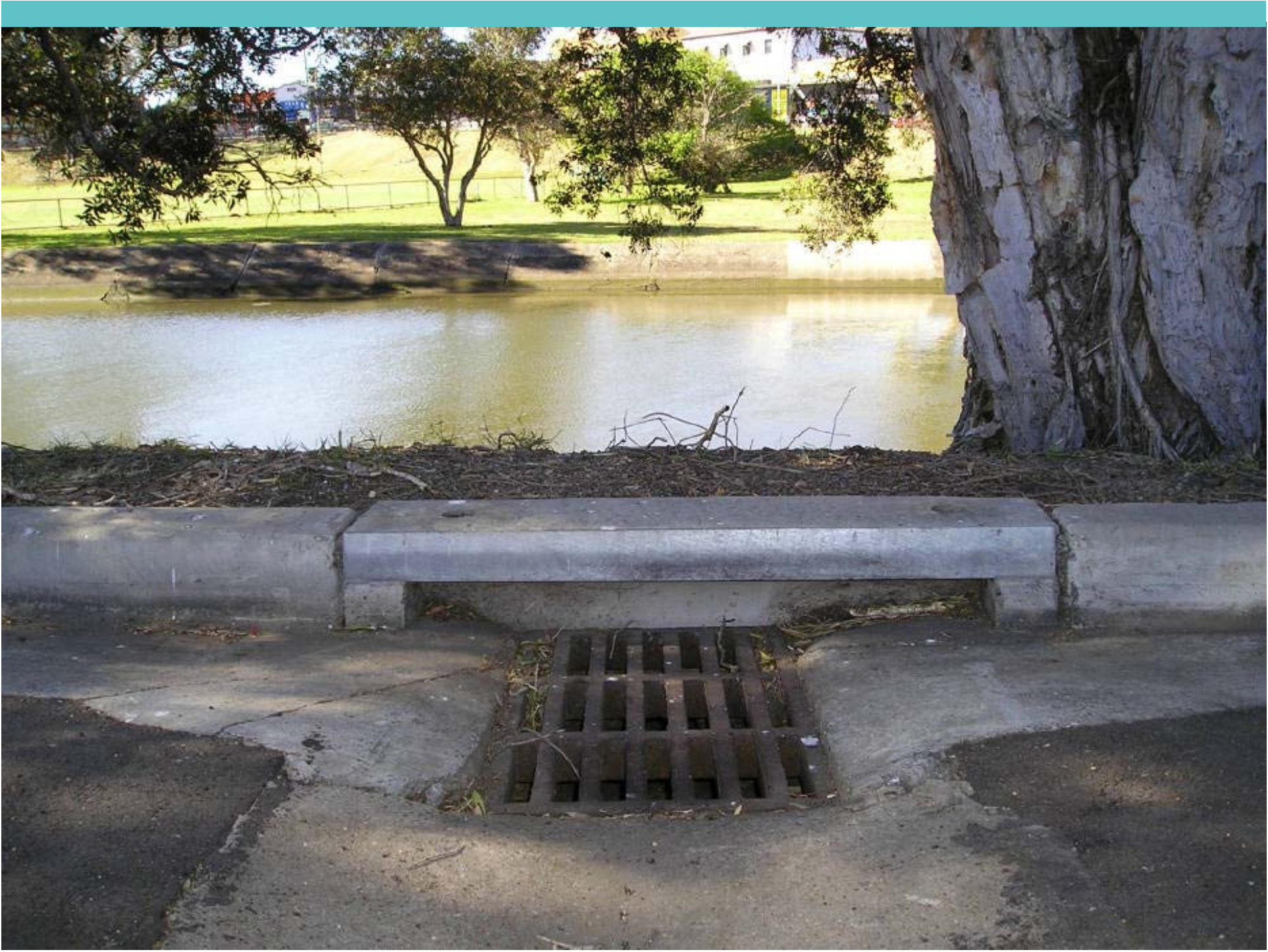
**It is not just dangerous chemicals that cause water pollution.**

**Even seemingly 'safe' substances such as foods, drinks, biodegradable detergents, organic fertilisers can harm the environment.**









**NO PARKING  
OVER DRAIN**

**DRAINAGE  
BOTANY BAY**



# Duty to Notify

**Notify the appropriate regulatory authority of any pollution incidents causing or threatening material harm to the environment.**



# Duty to Notify

## Material harm =

1) actual or potential harm that is not trivial

OR

2) Actual or potential loss or property damage amounting to \$10,000

Including on your own premises



# Duty to Notify

If in doubt call DECC 24 hour

Pollution Line

**131555**





# Duty to Notify

## Maximum penalties:

**Individuals** = \$250,000 (plus \$60,000 a day for continuing offences)

**Corporations** = \$1million (plus \$120,000 per day for continuing offences)

**On the spot fines** = \$750 individuals and \$1500 corporations



# Tier 1 Offences

- **s115** – Disposal of waste to harm the environment
- **s116** – Leaks, spillages and other escapes
- **s117** – Emission of ozone depleting substances

Willful

Negligent



# Tier 1 Offences

## Maximum penalties

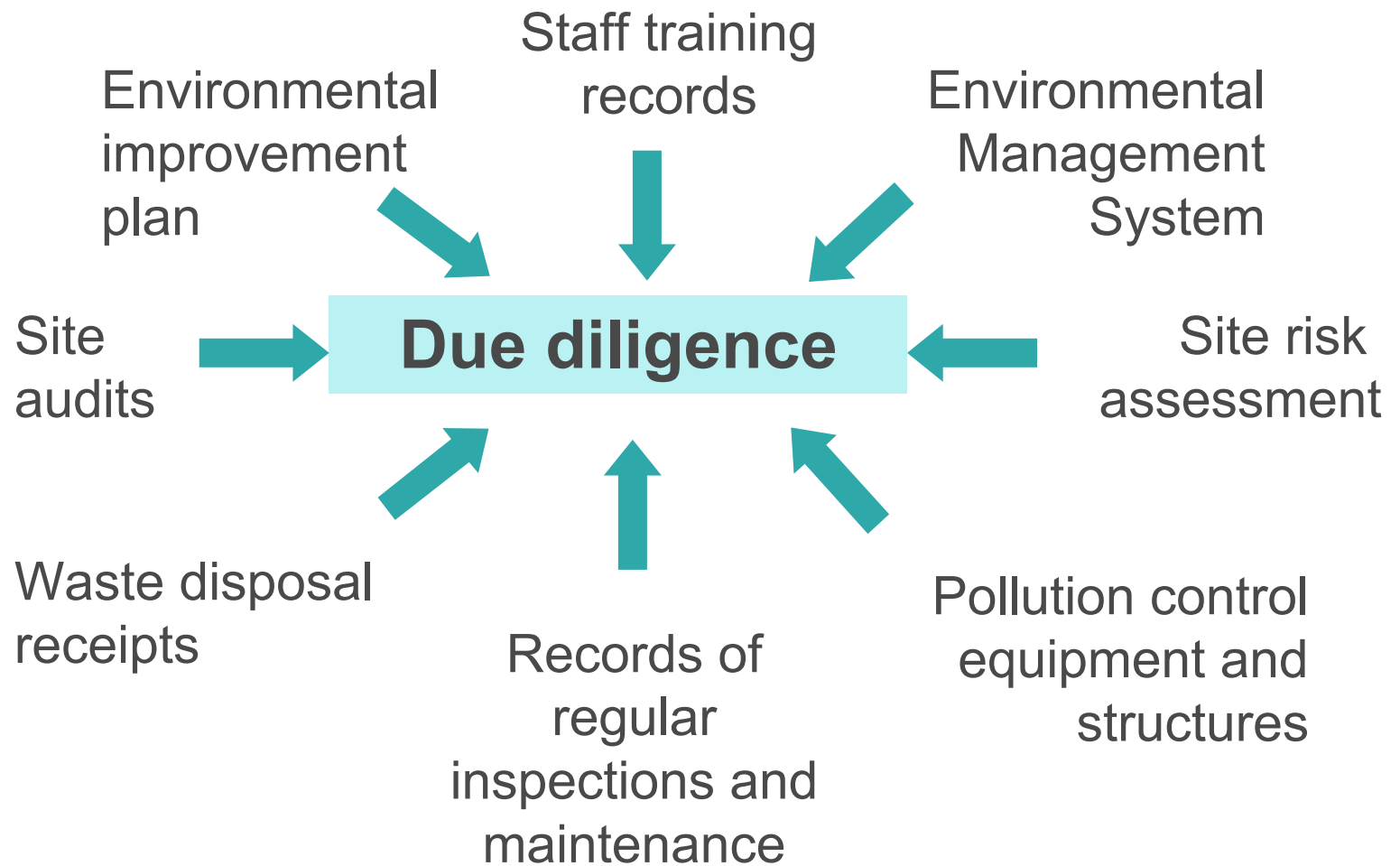
	Individual	Corporation
Negligent	\$500,000 +/- 4 years gaol	\$2 million
Wilful	\$1million +/- 7 years gaol	\$5 million



# Tier 1 Defence

- **The offence was due to causes over which the person had no control**
- **The person took reasonable precautions and exercised due diligence to prevent the offence.**





# Morning Tea



# Typical areas of non-compliance









NOVA Bay Tool Shop Selling  
CRAFT COMPASS  
12 BATTERY CASES TO GO FOR \$100  
NOVA Bay Tool Shop Selling  
CRAFT COMPASS  
12 BATTERY CASES TO GO FOR \$100  
NOVA Bay Tool Shop Selling  
CRAFT COMPASS  
12 BATTERY CASES TO GO FOR \$100

EAWAY

















# Prosecution proceedings



# Prosecution proceedings

- Describe how the offence occurred
- With the benefit of hindsight:
  - Identify the factors or failures that led to the incident
  - What engineering / built controls would have prevented this event?
  - What staff knowledge or skills would have prevented this event?



**Environment Protection Authority**

**v**

**Olex Australia Pty Ltd**



**Environment Protection Authority**

**v**

**Ecolab Pty Ltd**



**Environment Protection Authority**

**v**

**Warringah Golf Club**



**Environment Protection Authority**

**v**

**Illawarra Coke Company**

**Pty Limited**



**Environment Protection Authority**

**v**

**Truegain Pty Limited**



**Environment Protection Authority**

**v**

**Incitec Limited**





# Sentencing

- the **extent of the harm** caused or likely to be caused to the environment
- the practical measures that could have been taken to **prevent, control, abate or mitigate** that harm
- the extent to which the person who committed the offence could reasonably have **foreseen** the harm caused or likely to be caused to the environment



# Sentencing

- the extent to which the person who committed the offence had **control over the causes** that gave rise to the offence
- whether, in committing the offence, the person was **complying with orders** from an employer or supervising employee.



Demonstrate good site management



# Application of risk assessment to pollution control



**Risk = Hazard x Likelihood**



Likelihood ►	Very likely	Possible	Unlikely
Hazard ▼			
Substance will leave the site, not possible to contain it	High risk	High risk	Medium risk
Substance may be contained if noticed in time	High risk	Medium risk	Low risk
Substance can be prevented from leaving the site	Medium risk	Low risk	Low risk

Likelihood ►

Very likely

Possible

Unlikely

Hazard ▼

Substance will leave the site, not possible to contain it

High risk

High risk

Medium risk

Substance may be contained if noticed in time

High risk

Medium risk

Low risk

Substance can be prevented from leaving the site

Medium risk

Low risk

Low risk

Area / activity	Possible outcomes	How likely?	Hazard	Assess the risk
<p>Workshop forecourt area drains to stormwater. Area used to decant pesticides, washdown and repair equipment and vehicles</p>	<p>Vehicle wash water drains to stormwater</p>	<p>Very</p>	<p>Will leave site</p>	<p>High</p>
	<p>Spilt pesticides could be washed by staff to drain</p>	<p>Possible</p>	<p>Will leave site</p>	<p>High</p>

Action / Control measure	Who?	Priority / timeframe
<p>Construct a vehicle and equipment wash bay with pre-treatment for water and discharge to sewer under trade waste agreement OR only wash vehicles at a commercial car wash</p>	<p>Manager</p>	<p>High / short term</p>
<p>Construct secondary containment within the workshop and ensure that no work is carried out outside – train staff</p>	<p>Manager</p>	<p>High / short term</p>

# What if ...

- .... there was a fire?
- ....there was a vehicle accident?
- ....a disgruntled employee wanted to cause trouble?
- ....a very clumsy person was undertaking the activity?
- ....it happened on a weekend or in the middle of the night?





# Lunch



# Site management to reduce pollution risks













# 1) Action plan

## Control Measures column

**Use:** Guideline pages 16, 18 and 21

Guideline Appendix 2

Butchers' paper responses

Cleaner production case studies

# 2) Cleaner production

Which of the case studies would be relevant to your site?





# Action plan

**Three things that you could do  
when you return to work**



# What do you do at your site to reduce the risk of pollution?



# Physical measures

- **Secondary containment**
- **Site containment**
- **Sensors, alarms, switches, valves**
- **First flush systems**
- **Spill control equipment**
- **Site security**



# Secondary containment

- **Impervious to the liquid being contained**
- **Large enough volume**
- **If unroofed how will water be dealt with?**
- **Could be a building, a plastic container, a graded area, a wall or anything that contains liquids**
- **Will it operate during a fire?**





# Secondary containment isn't always a brick wall













AMERICAN  
CHEMICAL  
CORPORATION  
1992  
3WE  
Hazardous  
Material  
Label





**CAUTION**  
  
**ELECTRONIC SECURITY SYSTEM IN OPERATION**

**DANGER**  
**NO SMOKING  
NO NAKED FLAME**  
  
**FLAMMABLE LIQUID**

  
**USE OF MOBILE PHONES PROHIBITED**



Small black rectangular sign on the wall.

Small red rectangular sign on the wall.

Small blue rectangular sign on the wall.

Small blue rectangular sign on the wall.

Small red rectangular sign on the wall.

Small green rectangular sign on the wall.













## EMERGENCY DRAIN SEAL

- REMOVE PLASTIC FROM YELLOW FACE
- LAY YELLOW FACE TO DRAIN
- OVERLAP 100MM ON ALL SIDES
- WASH DOWN REPLACE PLASTIC AND RE-POSITION AFTER USE



# Ongoing management

- **Site planning**
- **Staff skills and knowledge**
- **Incident response plan (large and small scale incidents)**
- **Inspection and maintenance schedule**
- **Procedures, job roles, induction training**
- **Communication**



# Respond immediately to spills

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**Stop**  
the spill



**Contain**  
the spill



**Report**  
the spill



**Clean up**  
the spill



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You have a duty to notify pollution incidents to the Department of Environment and Conservation on 131 555 or your local council.

Failure to report a pollution incident that has the potential to cause material harm to the environment is an offence.

# Cleaner production

Reducing resource  
inputs (raw  
materials, energy,  
water)

+

Reducing wastes  
and emissions  
(volume and  
toxicity)



Increased business  
efficiency







**Questions?**  
**Clarification?**  
**Comments?**

