Mr Chris Eccles
Director General
NSW Department of Premier and Cabinet
Level 39
Governor Macquarie Tower
1 Farrer Place, Sydney. 2000

Dear Mr Eccles
I am pleased to provide my report into the review of the response to a serious pollution incident which occurred at the Orica Australia Pty Ltd Ammonium Nitrate Plant at Walsh Point, Kooragang Island on 8 August, 2011.

The report relies on information provided to me by Orica Australia Pty Ltd, a number of government agencies and their respective Ministers as well as comments made by residents of Stockton in relation to communication issues. In my report I have cross reverenced the information source which is contained in the accompanying folders.

I wish to record my thanks and appreciation to Orica Pty Ltd, the government agencies and their respective Ministers and the residents of Stockton for their contribution.

Yours sincerely

Brendan O'Reilly
30 Sept' 2011

A review into the response to the serious pollution incident at Orica Australia Pty. Ltd. ammonium nitrate plant at Walsh Point, Kooragang Island on August 8, 2011

Brendan O'Reilly

Contents

Executive Summary

The State Emergency and Rescue Management Act 1989 details emergency prevention, preparedness, response and recovery arrangements for NSW to ensure the coordinated response by all agencies having responsibilities and functions in emergencies. The State Disaster Plan (DISPLAN) is the principle document which outlines the overall agreed roles and responsibilities of different agencies and functional areas. The DISPLAN has a series of sub plans which address specific hazards. The HAZMAT/CBR Plan is established as a sub plan to the State Disaster Plan and relates to hazardous material incidents.

An incident occurred at the Orica plant located at Kooragang Island on 8 August 2011. A hazardous material, Chromium V1 was accidentally released on the site at approximately 1800 hours. Orica notified the Office of Environment and Heritage (OEH) - Hunter regional office on 9 August 2011, some 16 ½ hours after the incident and initially informed OEH that they believed the incident was contained on site. When OEH attended the site at approximately 1215 hours on the 9 August 2011 they were informed that the emission was more extensive then first thought and the fall out was visually evident off-site on residential buildings.

The delay by Orica in notifying the incident had a direct impact on whether the incident was treated as an emergency which in turn influenced the communication arrangements between response agencies and public communication arrangements. Nevertheless the review is able to confirm that although an emergency was not declared the two agencies OEH and NSW Health did follow the agreed roles and responsibilities as set out in the HAZMAT plan once they were notified.

Orica has expressed its regret that the Office of Environment and Heritage was not notified sooner. Orica stated that community feedback following the incident has sent a clear message to Orica that the nearby and wider communities expect more information on the site in a timely manner and greater engagement with Orica. Orica has advised by way of their first Community Newsletter dated 9 September 2011that it is committed to meeting the expectations of improved community engagement.

NSW Health received notification of the incident at 1130 hours on Wednesday 10 August 2011. Four days later (14 August 2011) NSW Health was in a position to advise the public that results confirm no health risk to residents.

But to the residents of Stockton and neighbouring communities the lack of communication represented a period of six days of uncertainty. They have every right to express their anger, concern and frustration that at the end of the day, despite the legislation, the government and company plans, policies and procedures, they were let down.

It is now known that the incident which occurred on August 8, 2011 at the Orica plant at Kooragang Island did not present a health risk to the residents of Stockton. But if it had, and the same time-lines applied, it may be a very different review that would have been

commissioned. As a result of my review of this incident, I have made a number of recommendations. I commend them to you.

Summary of Recommendations:

Recommendation: 1

- **Part 5.7 of the POEO Act 1997 section 148(2) be amended to read "A person carrying on the activity and becoming aware of the incident must immediately or within one hour of the incident occurring notify the appropriate regulatory authority of the incident and all relevant information about it".**
- **R2.2 of the POEO should remain as it relates to the licensee must provide written details of the notification within 7 days of the date on which the incident occurred.**
- **All Company associated emergency plans should be amended accordingly.**

Recommendation: 2

Irrespective of whether an emergency is declared or the accident is determined to be an Incident, when a hazardous material spill occurs which is not confined to the plant and impacts on neighbours be they other business houses or the community, and requires a coordinated inter-agency response, the community engagement system (PIFAC) will be activated immediately the incident becomes known.

Recommendation: 3

The MOU between OEH and FRNSW be amended to make it mandatory that immediately or within one hour of becoming aware of a hazardous material spill the agency who receives the notification must notify the other party covered by the MOU.

Recommendation: 4

The Office of Environment and Heritage in concert with the Minister for the Environment and Minister for Heritage and her office and the NSW Department of Premier and Cabinet review the processes and time frame for the submission of information which falls under the 'Early Alert' procedure.

Recommendation: 5

The Protection of the Environment Operations Act (1997) and any associated regulations are amended to allow in the event of a hazardous incident the Office of Environment, on advice from the Chief Health Officer to direct the company responsible for the activity to fund NSW Health for an independent analysis of the health risks associated with a hazardous incident.

NB to be read in conjunction with Rec 7

Recommendation: 6

WorkCover review its notification system and associated protocols.

WorkCover to ensure the content of initial training and refresher training provided to staff of the Strategic Assessment Centre including the relevance of the template of questions to be asked of the notifier

Recommendation: 7

- **The Environment Protection and Regulation Group, by Administrative Order be created separately from OEH as an independent Environmental Regulatory Authority headed by a Chief Environmental Regulator who has appropriate qualifications and experience.**
- **An Independent Board be established whose membership be drawn from people with regulatory expertise as well as representatives from community interests.**
- **Consideration is given to establishing community reference groups at strategic locations across NSW to assist the Authority in its deliberations.**
- **The Director General DPC review what other existing functions within OEH should also be transferred to the proposed independent Environmental Regulatory Authority.**
- **The proposed independent Environmental Regulatory Authority has its corporate service requirements met through OEH's existing corporate services division.**

Recommendation: 8

A Precinct Plan, similar to the Botany Bay Precinct Emergency Sub Plan be developed for Kooragang Island and appropriate surrounding areas as determined by the State Emergency Management Committee

Recommendation: 9

Periodically, Emergency Response Exercises be developed and implemented to incorporate both the media and the public as part of the exercise to test and evaluate the most appropriate means of communication, the clarity of information, its timeliness and public satisfaction levels.

Background to the incident

Appointment to conduct review into the serious pollution incident at the Orica Australia Pty Ltd Ammonium Nitrate Plant at Walsh Point, Kooragang Island.

On Wednesday 17 August 2011 I was contacted by Mr Chris Eccles, Director General NSW Department of Premier and Cabinet to conduct the above review. I was authorised to conduct the review under section 159A of the Public Sector Employment and Management Act.

The Terms of Reference were finalised with me on 18 August 2011 and are detailed in **Annexure 1**.

1. Description of Incident

"At around 1800 hours on 8 August 2011 there was an airborne release of a sodium chromate containing solution from SP8 vent stack in Orica Kooragang Island's Ammonia plant. This resulted in a dilute aqueous solution of sodium chromate landing in an area downwind of the stack.

The airborne release was quickly detected by personnel in the Ammonia plant and actions were immediately undertaken to stop the release. The duration of the event is considered to be approximately 15-20 minutes.

As a result of the incident a quantity of the sodium chromate solution was collected in a holding tank, intermediate bulk containers (IBC's) and an effluent pit. A quantity was also discharged to the Ammonia Plant effluent system and was subsequently collected in two storage areas, the Demineralisation Plant pond ('Demin Pond") and the diversion Pond.

At the time of the incident the Ammonia plant had commenced reduction of the High temperature Shift catalyst. This involves slowly increasing the temperature of the catalyst by passing steam through the catalyst bed. The steam that was passed through the catalyst bed was then discharged to the SP8 vent system. Whilst the exact mechanism is not clear, liquid, present in the process, dissolved a small quantity of Chromium V1, which was present in the catalyst. This dilute aqueous solution containing sodium chromate was being collected at the time from drainage points within the vent system"[1]

In response to a follow up question I put to Orica concerning the type and quantity of chemical involved in the incident which occurred on the 8 August 2011, Orica advised:

The chemical released from the plant as a result of the incident was a dilute solution of sodium chromate. This contains chromium V1 (or Cr(v1). It is very difficult to quantify the actual quantity of Cr(V1) released as a result of the incident.

[1] Orica Folder 2 Tab 1

Some of the release was in part controlled through capture using plant drain and storage systems. It is estimated that ~45kg of Cr(V1) was captured using these systems.

In addition to this, a quantity of Cr9V1) was emitted from the vent stack and either landed on the site or landed off site. Our best (conservative) estimate is that~ 21kg landed on the site. Independent (conducted by PAE Holmes) modelling of air emissions from the incident has estimated that between 10 and 20kg of Cr(V1) landed off site. [2]

2. The Definition of Hazardous Material

Hazardous material is defined as anything that, when produced, stored, moved, used or otherwise dealt with without adequate safeguards to prevent it from escaping, may cause injury or death or damage to property (Fire Brigades Act, 1989)

Chromium is a naturally occurring element found in soils and rocks. It is released into the environment by natural and man made processes. Most people are exposed to small amounts of chromium from the air, food and water.

Chromium exists in three forms: Chromium (0), Chromium (111) and Chromium (V1). Chromium (V1) is most toxic of these forms but will quickly transform to Chromium (111) (in about 7 days) in the natural environment (Health Fact Sheet)

3. Is Chromium V1 oxide a hazardous material?

Suppliers of a hazardous substance are required to prepare a Material Safety Data Sheet (MSDS). Duties and obligations for the production, review, revision and supply of the MSDS are prescribed in the Commonwealth, state and territory regulations that give effect to the National Model regulations for the Control of Workplace Substances (NOHSC:1005 (1994) and the National Standard for the Preparation of Material Safety Data Sheets (MSDS Code) provides guidance on the preparation of an MSDS.

The MSDS for Chromium V1 oxide, Section 3: Hazards Identification notes the following:

"Toxic if swallowed, inhaled or absorbed through skin. Strong oxidiser. Contact with other material may cause a fire. Causes burns by all exposure routes. May cause allergic respiratory and skin reaction. Harmful if swallowed. Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment. Cancer hazard. Possible risk of impaired fertility. May cause heritable genetic damage."

The MSDS was created in February 1998 and Revision #12 is recorded as February 2008. It is therefore current.[3]

4. Emergency Management Arrangements Operating in NSW

The State Disaster Plan (Displan) established by section 12 of the *State Emergency and Rescue Management Act 1989* details emergency prevention, preparedness, response and

[2] Orica Folder 2 Letter 14/9/11 – page 2

[3] NSW Police Folder 1 Tab 2

recovery arrangements for NSW to ensure the coordinated response by all agencies having responsibilities and functions in emergencies.[4]

Specifically the Displan:

1. identifies, in relation to each different form of emergency, the combat agency primarily responsible for controlling the responses to the emergency;
2. provides for the coordination of the activities of other agencies in support of a combat agency in the event of an emergency;
3. specifies the tasks to be performed by all agencies in the event of an emergency; and
4. specifies the responsibilities of the Minister, Emergency operations controllers and the State Emergency Recovery Controller

The Displan is the principal document outlining the overall agreed roles and responsibilities. Arrangements between the different agencies involved in Emergency management are documented in plans. These plans are endorsed by the appropriate emergency management committee at each level (Local, District/Regional and State).

The Displan has a series of Sub Plans, which address specific hazards, and Supporting Plans, which outline arrangements for groups of agencies that may act in a supporting role in the response to any particular hazard.

The Hazardous Materials/ Chemical, Biological, Radiological (CBR) Sub Plan is a sub plan of the Displan. It details roles and responsibilities for incidents requiring a significant and coordinated response from a number of agencies**.**[5]

Section 113 of the State HAZMAT/CBR Plan states the plan is activated when an incident involves hazardous materials / CBR and has the potential to involve any of the following:

- Significant and coordinated response, which is beyond the capability availability at the local arrangements.
- The activation of HEALTHPLAN to manage the casualties; or
- A significant or prolonged evacuation of an area where evacuees require support.

Section 114 of the State HAZMAT/CBR plan states the plan can be activated by any one of the following:

- State Emergency Operations Controller or deputy;
- NSW Fire Brigades Commissioner; (now Fire and Rescue NSW)
- State Health Services Functional Area Coordinator; or
- Environmental Services functional Area Coordinator.

[4] NSW Police Folder 2 Tab 3

[5] NSW Police Folder 2 Tab 4

5. The Orica Pollution Incident and its relationship to the HAZMAT/CBR Plan

5.1 NSW Police Force

The NSW Police Force believed the pollution event on the 8 August 2011at the Orica site located at Kooragang Island

"was an emergency as opposed to an incident in that the chemical release endangered the safety/ health of persons in the State and threatened to endanger the environment. This event required a response from a number of agencies in both a lead and supporting capacity. Whilst this event was relatively localised, the response was overseen at a State level (eg. Chief Health Officer, NSW Health and Chief Executive, Office for Environment and Heritage)".[6]

NSW Police Force further advises

"At no time did any agency request the activation of the State HAZMAT/CBR Plan nor seek assistance utilising the established emergency management arrangements. The activation of the State HAZMAT/CBR Plan was complicated by the delay in notifying Fire and Rescue NSW and confirming the potential seriousness of chemical release. Any actions that could have immediately been implemented to mitigate the risk posed by the release of the chemical were superfluous"[7]

5.2 Fire and Rescue NSW (FRNSW) advised

"The sub plan was not activated at the Orica incident. When subsequent information was provided, (11 August 2011) FRNSW was advised that the chemical release was contained, was not major, was being addressed by on site resources, that FRNSW resources were not required, and that it was a recovery operation, not a response operation. Based on this information, the pre requisites for the activation of the sub plan did not exist.

An emergency was not declared, and the sub plan was therefore not activated, nor were FRNSW resources mobilised to the Orica site"[8]

FRNSW further *advises*

"FRNSW does not expect that the plan would have been invoked, as the leak was stopped. If it was an ongoing leak and unable to be contained, a range of considerations may have led to the plan being activated, for example:

[6] NSW Police Folder 1 Tab 38 – page 6
[7] NSW Police Folder 1 Tab 38 – page 11
[8] FRNSW Folder 1 Tab A – page 14-15

- *Mass evacuations in Stockton and surrounding areas*
- *Closure of all facilities at Kooragang Island*
- *Medical screenings of evacuees*
- *Establishment of evacuation centres.*[9]

FRNSW also advised

"It should be noted that the Orica incident did not result in the activation of this sub plan as the delayed advice from Orica indicated that they believed this to be a low level, contained incident"[10]

In the telephone conversation held on the 11 August at 12:30 between FRNSW and the Office of Environment and Heritage (OEH) it was agreed that due to the nature of the incident at Orica it would be a recovery operation and the lead agency would be Health.

FRNSW records indicate that the sub plan has only been formally activated once, by the Commissioner of FRNSW, to deal with a major incident in April 2003 in the CBD of Forbes which is located in Central West NSW. The incident caused significant dislocation to the local community for a number of days, and due to the numerous non emergency implications, as well as the need for coordinated emergency management the Commissioner deemed it necessary to invoke the plan.

5.3 Office of Environment and Heritage advised:

"The HAZMAT/ CBR plan was not activated for the Orica incident. Although the release of the Hexavalent chromium from the Orica plant fits the definition in the Plan of a hazardous materials incident, the incident was not an emergency (the trigger for activating the Plan) as defined by the Plan. The incident had moved past the response phase and into the recovery phase by the time Orica notified OEH of the incident"[11]

It should be noted that Orica notified OEH of the incident at 10.30 on 9 August 2011; 16 and a half hours after the incident occurred.

5.4 Health advised:

"With respect to the role of NSW Health in activating the plan, the HAZMAT/CBR sub plan states – this plan is to be activated when the hazardous materials/ CBR emergency involves or has the potential to involve the activation of HEALTHPLAN to manage casualties"

There were no casualties requiring treatment, hence HEALTHPLAN was not activated.

When NSW Health was notified of the incident on 10 August 2011, the required health response was a public health response that did not require activation of HEALTHPLAN. [12]

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[9] FRNSW Folder 1 Tab A – page 15
[10] NSWFR Folder 1 Tab A – page 3
[11] OEH Folder 1 Tab A – page 4
[12] NSW Health Folder 1 Tab 1 – page 7

6. Emergency or Incident

The question that arises is should the chemical release at Kooragang Island on the 8 August been declared an Emergency or an Incident?

A Hazardous Materials Emergency is defined as “any hazardous materials incident which requires a significant and coordinated response. Such emergencies may be land based, or occur on or in the inland waters or the marine waters of New South Wales”. (Hazardous Materials/CBR Emergency Sub-Plan)

A Hazardous Materials Incident relates to “an actual or impending land based spillage or other escape of hazardous material that causes or threatens to cause injury or death or damage to property”. (Fire Brigades Act, 1989)

I find it difficult to distinguish between the two and I think the general public may find a similar difficulty. Certainly what occurred at the Orica plant met the definition as an emergency in that “it required a significant and coordinated response” but it also meets the definition of a Hazardous Materials Incident because it did relate to “an actual land based spillage or other escape of hazardous material that causes or threatens to cause injury or death or damage to property”.
Under Part 5.7 of the Protection of the Environment Operations Act 1997, Section 148 (2) states “A person carrying on the activity must as soon as practicable after the person becomes aware of the incident, notify the appropriate regulatory authority of the incident and all relevant information about it.”

R2: **Notification of environmental harm**

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.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred

According to the Notification of Incident report submitted by Orica to the Office of Environment and Heritage on 15 August 2011 the duration of the incident was approximately 15 to 20 minutes. It is difficult to understand why it took Orica some 17 hours to inform OEH. Orica has expressed its regret that OEH was not notified sooner.

The fact is the accidental spillage occurred at the Orica plant at 1800 hours on the 8 August, 2011;

Approximately:

- 16 ½ hours after the incident, Orica notified the OEH Hunter Regional Office;
- 17 hours after the incident, Orica notified WorkCover
- 19 ½ hours after the Orica incident, FRNSW hazmat section at Newcastle Fire Station

received an anonymous phone call advising on a release at the Orica plant.

- 42 hours after the Orica incident, Orica advised Health and OEH held briefing with Hunter Health.
- 44 ¼ hours after the Orica incident Police advised by OEH.
- 46 ½ hours after the Orica incident, the Minister for the Environment and Heritage is notified of the incident.
- 71 ¾ hours after the Orica incident Ministry of Police and Emergency Services receive advice from NSWFR.

The first the general public got to hear about it was the nightly news on 11 August 2011. Approximately 72 hours after the incident occurred.

The problem is the regulations under the POEO Act use the words "as soon as practical". This is too open ended and can impact on whether the accident is classed

as an Emergency or an Incident which in turn may affect the coordinated way it is managed and the communication processes adopted.

RECOMMENDATION: 1

- **Part 5.7 of the POEO Act 1997 section 148(2) be amended to read "A person carrying on the activity and becoming aware of the incident must immediately or within one hour of the incident occurring notify the appropriate regulatory authority of the incident and all relevant information about it".**
- **R2.2 of the POEO should remain as it relates to the licensee must provide written details of the notification within 7 days of the date on which the incident occurred.**
- **All Company associated emergency plans should be amended accordingly.**

7. Community Engagement

As mentioned previously, at the end of the day what is important to the public is not so much the definition of "emergency" as against an "incident" but rather that when a pollution incident occurs and it has not been contained on site that they are kept informed:

a) When a pollution accident occurs
b) What it means to their health, safety, community and environment
c) What precautions or actions they need to take
d) What steps are being taken to address the accident, both immediately and in the longer term, and,
e) They receive notification when the incident is officially over.

The State Emergency & Rescue Management Act 1989 establishes the role of the Public Information Functional Area Coordinator (PIFAC) who is currently a senior member of the Police Media Unit. The Coordinators role has a number of responsibilities, including the maintenance of the Public Information services supporting Plan. The Plan details the arrangements for the coordination of the collection, collation and dissemination of public information in an **emergency** under the control of an emergency operations controller. This includes the coordinated release of public safety / warning messages and public information,

public education and interaction between all media agencies during the phase of emergency operations.

The Plan follows the principles below, which will enable the effective management, coordination and release of information to the public:

- Ensuring the integrity of emergency operations
- Building and holding public confidence
- Meeting media and public demands for timely information
- Providing information which impacts on public safety in a timely manner
- Providing consistent and coordinated information from all arms of government
- Providing accurate and reliable information
- Assisting in longer term recovery

All agencies responding to an emergency are entitled to release information but must ensure that the information they intend to release is not in conflict with messages being generated by the PIFAC.

RECOMMENDATION: 2

Irrespective of whether an emergency is declared or the accident is determined to be an Incident, when a hazardous material spill occurs which is not confined to the plant and impacts on neighbours be they other business houses or the community, and requires a coordinated inter-agency response, the community engagement system (PIFAC) will be activated immediately the incident becomes known.

8. Public confidence in response and recovery arrangements

In its response to my questions FRNSW makes a very important point concerning the fact that the HAZMAT/CBR plan has only been activated once. "This may imply that the plan is either not necessary, or is not properly used to a casual observer. However, the fact that it is rarely invoked actually points to the well understood, well rehearsed and comprehensive nature of the State's Hazmat capability and the ability of different agencies to work seamlessly. In short there is rarely a need to raise management of such incidents to a higher level, as they are handled so well"[13]

The communities which make up NSW would no doubt find some comfort in this assertion given the excellent record of first response officers when an emergency or critical incident has occurred in the past. For the people of Stockton however, who have recent experience of an incident involving the accidental release of a hazardous chemical; they have every right to demand evidence that this is still the case. After all it was their families and friends and indeed the overall community who felt very threatened and concerned by not only by the incident itself but also how it was managed. There was much media coverage of this particular incident, and in the absence of information associated with the current

[13] FRNSW Folder 1 Tab A – page 15

notification regime, some of it was speculative. This in turn raised the communities concern and confusion to the seriousness and impact of the pollution accident.

To assess how well this incident was managed by Health and OEH, I requested both agencies to detail the actions they took as they relate to those required under the HAZMAT/CBR Pan. ie. Despite the plan not being officially activated, did these two agencies follow the procedures?

9. HAZMAT/CBR Plan

9.1 HEALTH

Activation

113 This plan is to be activated when the Hazardous Materials/CBR emergency involves or has the potential to involve:

b. The activation of HEALTHPLAN to manage the casualties.

There were no casualties requiring treatment, hence HEALTHPLAN (PD2009_008) was not activated.

When NSW Health was notified of the incident on 10 August 2011, the required health response was a public health response that did not require the activation of HEALTHPLAN.

The State Health Services Functional Area Coordinator (HSFAC) was notified on 11 August 2011.

Health Services

216 Health Services Functional Area Coordinator is to:

a. appoint a Health Commander and a Medical Commander;

Under NSW HEALTHPLAN a Health Commander may be appointed by the State HSFAC to coordinate all health operations at the emergency site. A Medical Commander may be appointed to command medical operations at the emergency site for the treatment of casualties. The requirement to appoint a Health Commander and a Medical Commander refers to acute incidents – for instance, an overt chemical agent attack or explosion – where numerous health resources or personnel are deployed to treat casualties at an incident site.

In the case of the Orica chromium VI release on 8 August 2011, there was no discrete emergency site with identified casualties requiring a trauma response or on-scene coordination.

The Health Commander can be a Public Health Commander if on-site coordination of public health activities is required. The required health response to the Orica incident when NSW Health was notified of the chromium release on 10 August was a public

health response. Once notified, both the State Public Health Controller (Chief Health Officer) and Local Health District (LHD) Public Health Controller (A/Public Health Unit Director) positions were automatically 'activated', thus allowing these position holders to control the overall direction of public health response activities.

b. coordinate and manage the mobilisation of all health responses, including medical,
mental health and environmental health in accordance with the arrangements detailed in NSW HEALTHPLAN;

The State HSFAC has an ongoing responsibility to coordinate and manage the mobilisation of all health responses.

Once notified on Wednesday 10 August 2011, the required health response to the Orica release was a public health/environmental health response. This is appropriately managed by the State and LHD Public Health Controllers. The State HSFAC provided a link between the Public Health Controller and the State Emergency Operations Centre (SEOC), as per existing emergency arrangements. No medical or mental health response was required in this incident. Regular Incident Action Plans (IAPSs) were provided to the SEOC.

The HNE Population Health Unit established an advice line for the public and the volume and nature of concerns from the public was monitored. The call volume was low. Regional hospitals were monitored for any presentations related to the incident. No presentations were recorded.

c. undertake environmental health protection including:
    i. assess long term health risks to any persons or populations that may be exposed;

The State Public Health Controller convened an expert panel, including clinical toxicologist Professor Alison Jones, cancer epidemiologist Professor Bruce Armstrong, the Office of Environment and Heritage (OEH) and others to review potential health risks. This panel met for the first time on the morning of 11 August and there have been regular meetings since.

Under the HAZMAT / CBR Sub Plan, the Environmental Services Commander is responsible for managing environmental monitoring in the air, soil and water. NSW Health worked with OEH (the Environmental Services Functional Area) to ensure appropriate environmental monitoring was undertaken and that samples were collected that could be used to inform a comprehensive health risk assessment.

A rapid health risk assessment was conducted by Professor Alison Jones based on the results of environmental samples that NSW Health received at 23:26 on Friday 12 August. This assessment considered the acute health risks associated with exposure to chromium VI. The report (*A Rapid Risk Assessment Following the Release of Chromium VI From the Orica Plant, Kooragang Island, 8 August 2011*) is available on the NSW Health

website. The conclusion - that acute health effects were extremely unlikely – was provided to the SEOC and public on the morning of 13 August.

NSW Health then undertook a comprehensive risk assessment that considered in detail the risk of non-cancer health effects and cancer. This used air modelling data provided by Orica (and verified by OEH) to assess the risk of ill health associated with exposure to the initial release. It also considered the risk from ingestion of home-grown fruit and vegetables, ingestion of soil, ingestions following contact with contaminated surfaces and inhalation of resuspended dust.

ii. assess health risks posed by the contamination of water supplies or foodstuffs;

NSW Health assessed the risk posed by contamination of water supplies and foodstuffs.

Stockton has a reticulated potable water supply provided by Hunter Water Corporation and there was no risk of this becoming contaminated. NSW Health normally advises people not to drink from rainwater tanks. This advice was reiterated to residents of Stockton on 11 August. Hunter New England Population Health Unit sought to identify locations of rainwater tanks within the impacted zone to allow advice to be provided to owners. OEH was aware of the approach to water tanks and similarly sought to identify rain water tanks in its inspections.

NSW Health advised the community not to eat home-grown leafy vegetables or fruit and to wash any home-grown root vegetable prior to consumption on 11 August as a precautionary measure.

NSW Health ascertained that there were no active oyster leases in the area. Expert advice was that consumption of fish from local waterways would result in no harmful human health effects from this incident.

iii. assess the potential for outbreaks of infectious disease and implement appropriate actions;

The Orica release of chromium VI was not deemed to increase the risk of an infectious disease outbreak.

iv. make recommendations to EOCON or Site Controller regarding appropriate
actions to prevent significant long term health risks;

NSW Health has provided the same advice to partner agencies (through the State Emergency Operation Centre) via IAPs, factsheets and teleconferences as has been provided to the public – no acute health risks are expected to Stockton residents from the Orica chromium release of 8 August.

The first IAP was submitted to the State Emergency Operation Centre on 12 August 2011. NSW Health submitted five IAPs to the State Emergency Operation Centre between 12 August and 14 August. On 15 August, the OEH assumed responsibility for updating and submission of IAPs.

v. advise on the risks of exposure to people/populations and recommend appropriate actions;

Public health advice was provided to other agencies via the IAPs (see above).

In addition, a factsheet was provided directly to residents in the affected area on the evening of 11 August. Environmental Health Officers of Hunter New England Population Health were present in the area to answer questions from concerned residents and a helpline was also set up for provision of advice. Environmental Health Officers from Hunter New England Population Health wearing high visibility NSW Health tabards were also available to provide advice in the community on 12, 13, 14, 15 and 16 August. Specific precautionary advice was provided to the child care centre in Stockton.

- The first factsheet (*Chromium VI release from Orica at Kooragang Island*) was issued to residents and the SEOC on 11 August, included answers to the following questions:
    - What is the current situation?
    - What areas are likely to be affected?
    - What is chromium?
    - Can chromium VI affect my health?
    - What is the NSW Government doing?
    - What can I do to reduce exposure to chromium VI?
    - How can I find out more about the current situation?

Two further factsheets were issued as the results of sampling became available.

- On 14 August, the factsheet *Stockton chromium results confirm no health risk to residents* was distributed. This included the following information:
    - Summary of samples taken
    - Sample results
    - Description of area at most risk of exposure
    - Analysis and interpretation of sampling results
    - Precautionary steps
    - Tap drinking water unaffected
    - Contact details to access additional information
- On 16 August, another factsheet was issued. This provided the results of all sampling that had taken place and included:
    - Seven key messages from sampling results
    - Detailed sample results, including a chart identifying the type of sample, sample details and chromium VI concentration
    - A map illustrating sampling locations
    - Conclusion that the sampling results indicate no negative health effects for residents

Communication with the public also includes:

- *A Rapid Risk Assessment Following the Release of Chromium VI From the Orica Plant, Kooragang Island, 8th August 2011*, including:
    - Worst case modelling for ingestion as an exposure route (eg how much product a human would have to eat to have a health effect)
    - All but three samples within the boundary area in Stockton fell below the detection limit for the NATA accredited lab.

- In making a risk assessment a very worst case scenario risk assessment for ingestion as a route of exposure has been worked through and indicates that for a child to get adverse effects is very unlikely and would require an implausible chain of events – and for an adult it is also implausible.

- *Release of Chromium VI from the Orica chemical plant, Kooragang Island, Stockton, 8th August 2011 Final Health Risk Assessment Report, 2nd September 2011*
  - The Final Health Risk Assessment Report concludes:
    - *"The assessment confirms the conclusion of the initial rapid risk assessment: immediate health effects were not expected to occur as a result of the chromium VI release from the Orica plant.*
    - *On the basis of this risk assessment, it is very unlikely that anyone in Stockton will develop cancer as a result of this incident. We would not expect to see a single extra case of cancer in the population of Stockton as a result of this chromium VI exposure."*
- Numerous media interviews since 11 August
- Department of Health media releases including:
  - *Orica identifies chemical release in the Hunter* (11 August)
  - *Reassuring results from Stockton chromium testing* (13 August)
  - *Stockton chromium results confirm no health risk to residents* (14 August)
  - *Stockton chromium results confirm no health risk to residents* (16 August)
- Participation in a Stockton community meeting on 23 August

vi. advise on the disposal and the management of clinical wastes; and

There was no clinical waste as a result of the health response to the Orica release.

vii. in the event of evacuations monitor temporary accommodations and recommend measure to maintain satisfactory public health standards, including food-water and waste disposal.

No residents were placed into temporary accommodation (eg evacuation centres) as a result of the Orica release.

d. provide appropriate personnel as requested.

No request was made for personnel under this plan.

Personnel from Hunter New England Local Health District and Population Health Unit, as well as the Department of Health and independent toxicology and cancer epidemiology experts, contributed to the health response to the Orica chromium release. This included undertaking health risk assessments, environmental health officers canvassing affected neighbourhoods and speaking with residents, senior leaders attending a community meeting, the State Public Health Controller conducting expert panels, working with the media to promote public information and participating in numerous briefings and planning sessions with partner agencies. Public health clinicians have been available 24/7 to speak with any concerned residents via telephone, the contact details of which were actively promoted.

Health Commander

217 The Health Commander is to:

a) notify the State Health Services Functional Area Coordinator (HSFAC) and undertake the roles and implement the procedures detailed in NSW HEALTHPLAN;
b) provide triage, pre-hospital care and transport for the casualties in accordance with Ambulance State Major Incident/Disaster Plan (AMPLAN);
c) provide pre and post entry medical monitoring of Combat site response personnel;
d) provide triage and pre-hospital care of casualties during removal and
e) decontamination from the Combat Area;
f) when an IED is suspected or present, provide pre-hospital support personnel prior to the forward deployment of NSW Police bomb technicians; and
g) coordinate and communicate health advice to the Site Controller.

See notes above (216a). In the case of the 8 August 2011 Orica chromium release, a Health Commander was not required for incident site coordination as there were no on-site casualties requiring assessment and treatment and no on-site operations of emergency service personnel.

9.2 Office of Environment and Heritage

Environmental Services

The Environmental Services Functional Area Coordinator is to:

a) appoint an Environmental Services Commander;
    - *While not classified as an emergency, OEH undertook the relevant responsibilities of the Environmental Services Coordinator and Commander. The Deputy Chief Executive, Environment Protection and Regulation (who is the formal Environmental Services Functional Area Coordinator) had overall control of the incident from an environmental perspective. As the Plan was not formally activated an Environmental Services Commander was not appointed, however Manager Hunter Region was responsible for operational issues associated with the incident.*
b) provide any necessary technical advice and support to the Multi Agency Incident Management Team, including:
    - assistance with the identification and assessment of the hazardous materials;
        - *OEH staff worked with Orica staff to identify the material that had been discharged from the Ammonia Plant stack, the extent of the incident, substances involved and associated risks. They obtained documentation from Orica and assessed the risks. They undertook sampling and priority analysis of the samples were undertaken by OEH Laboratories. This information was used to formulate a response.*
    - assistance in determining environmental impacts.
        - *The material obtained above, including sample analysis results were provided to NSW Health. OEH and NSW Health worked together to*

determine any human health and environmental impacts. The environmental impacts were identified as low.

- identification and provision/sourcing of appropriate environmental monitoring equipment;
  - *OEH identified and used environmental monitoring equipment as per relevant guidelines/protocols. Multiple samples were taken on the Orica site and in the Stockton area. The samples were analysed at OEH's NATA Accredited Laboratory at Lidcombe as a matter of priority.*
- provision of technical and regulatory advice regarding options for clean-up, waste transport and disposal;
  - *OEH issued a legal Clean Up Notice to Orica. The Notice contained directions on the actions the company was required to take to clean up affected properties in the Stockton area. OEH officers also advised Orica on appropriate waste containment and disposal requirements/processes.*
- the provision of investigators to assist or lead investigations into the causes of the incident.
  - *OEH's Specialist Investigation Unit was dispatched to Newcastle to lead the investigation of the incident. Legal Branch staff were also made available to assist the investigation. OEH also issued a requirement for Orica to engage an independent auditor to conduct a mandatory audit of the premises to examine the root cause of the issue and environmental management of the site.*
- provide appropriate personnel as requested
  - *OEH Hunter Region staff attended the site less than 2 hours after being notified by Orica of the incident. Regional staff inspected the Orica site and the Stockton area, took samples and directed Orica to take the necessary actions. Hunter Region staff also issued various legal notices. As mentioned above, OEH's Specialist Investigation Unit was called in to commence an investigation of the incident. OEH's Lidcombe Laboratories made staff available to undertake urgent analysis of samples collected. OEH Public Affairs Branch and senior officers also worked very closely with their counterparts in NSW Health and the other relevant agencies (NSW Fire & Rescue and WorkCover Authority).*

Environmental Services Commander

Environmental Services Commander is to:

a) provide technical advice to the Multi Agency Incident Management Team which includes:
   - the chemical and physical properties of the hazardous material;
   - the behavioural characteristics;
   - options for response measures, and
   - options for disposal of contaminated residues.

- *As the incident was not an emergency a formal Multi-Agency Incident Management Team was not set up. However OEH provided technical advice and worked with NSW Health on the ramifications to the public. OEH also liaised with NSW Fire & Rescue and participated in meetings with State Emergency Management Committee.*
- *OEH worked with NSW Health on appropriate response measures and oversaw the disposal of contaminated residues.*

- support the NSWFB Commander in managing the environmental monitoring of the hazardous material(s) in air, water and soil during the response phase.
  - *As mentioned above OEH managed the environmental monitoring of hazardous materials, in consultation with NSW Health and NSW Fire & Rescue. This included OEH taking and analysing samples and directing Orica to take action to clean up affected properties and their own site.*
- manage the environmental monitoring of the Hazardous Materials/CBR in air, water and soil during the recovery phase.

  See OEH response to (b) above

- support the recovery coordinator in managing the clean up of the contaminated area and disposal of any contaminated wastes.
  - *OEH led this task which included directing Orica to clean up contaminated areas via legal notice and providing advice/directions on appropriate storage and disposal options.*
- investigate the cause of any Hazardous Materials/CBR emergency and provide a report to the Hazardous Chemicals Advisory Committee in accordance with the requirements of the Environmentally Hazardous Chemicals Act 1985.
  - *As mentioned above, the incident was not an emergency and therefore no report was provided to the Hazardous Chemicals Advisory Committee. However OEH is conducting its own investigations into the incident and has also directed Orica to employ an independent auditor to determine the root cause of the incident.*
- communicate operational information to the Multi Agency Incident Management Team
  - *While no formal Multi Agency Incident Management Team was established to deal with this incident, OEH was in frequent contact with other relevant agencies (NSW Health, NSW Fire & Rescue, and also with WorkCover Authority) As part of these discussions OEH continually provided operational information and support.*
- assist the Health Commander in determining the environmental health ramifications on public health
  - *OEH worked very closely with NSW Health on the analysis of the results of sampling undertaken and potential impacts. OEH also assisted NSW Health in developing information for the community*

and assisted NSW Health officers in delivering flyers to the Stockton community.

- advise other Functional Areas or organisations involved in the emergency on environmental issues.

As mentioned above OEH also provided advice on environmental issues to NSW Health, NSW Fire and Rescue and to WorkCover Authority.

10. Conclusion

As can be seen from the above, although the HAZMAT/CBR plan was not formally activated, Health, as the lead responding agency and the Office of Environment and Heritage did adopt the Roles and Responsibilities as detailed in the HAZMAT/CBR sub plan.

This confirms the Commissioner FRNSW assertion that the plan is well understood by agencies and their ability to work seamlessly.

On page 29 of this report I make reference to the preparedness training that 'response agencies' undertake and this no doubt is critical to keeping current the understanding and expertise of first responders.

Terms of Reference: A

The Obligations on companies involved in the industrial use of hazardous materials to notify serious pollution incidents to relevant authorities and to the community under relevant NSW legislation, regulations and licences.

A1. NSW Department of Planning.

State Environment Planning Policy No 33-Hazardous and Offensive Development (SEPP 33)

SEPP 33 introduces performance based definitions of 'hazardous' and 'offensive' and sets out specific assessment requirements for such proposals.

Hazardous Industry Advisory paper 12 sets out standard conditions of consent that the consent authority may wish to impose. It includes, amongst other conditions, the following:

Incident Report: Within 24 hours of any incident or potential incident with actual or potential significant off site impacts on people or the biophysical environment, a report shall be supplied to the Department outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventive measures. That report must be submitted to Council no later than 14 days after the incident or potential incident. The applicant shall maintain a register of accidents, incidents and potential incidents. The register shall be made available for inspection at any time by the independent hazard Auditor and Council.

The General Manager, Newcastle City Council (NCC) advised me in a telephone conversation on 20 September 2011, Council has not received any notification of the incident from Orica. NCC first heard of the incident when they were contacted by OEH on Thursday 11 August 2011.

NCC is now involved in the Start up Program at Orica.

The General Manager advised that the incident has exposed problems in the communication processes which in the public's interest need to be addressed.

A2 Office of Environment and Heritage

Part 5.7 of the Protection of the Environment Operations Act 1997 (POEO Act)

Requires pollution incidents that cause or threaten material harm to the environment to be notified to OEH, if OEH is the appropriate regulatory authority. Standard conditions are

Protection of the Environment Operations Act 1997 No 156

Part 5.7 Duty to notify pollution incidents

147 Meaning of material harm to the environment

(1) For the purposes of this Part:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

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

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

148 Pollution incidents causing or threatening material harm to be notified

(1) **Kinds of incidents to be notified**

This Part applies where a pollution incident occurs in the course of an activity so that material harm to the environment is caused or threatened.

(2) **Duty of person carrying on activity to notify**

A person carrying on the activity must, as soon as practicable after the person becomes aware of the incident, notify the appropriate regulatory authority of the incident and all relevant information about it.

(3) **Duty of employee engaged in carrying on activity to notify**

A person engaged as an employee in carrying on an activity must, as soon as practicable after the person becomes aware of the incident, notify the employer of the incident and all relevant information about it. If the employer cannot be contacted, the person is required to notify the appropriate regulatory authority.

(3A) **Duty of employer to notify**

Without limiting subsection (2), an employer who is notified of an incident under subsection (3) or who otherwise becomes aware of a pollution incident which is related to an activity of the employer, must, as soon as practicable after being notified or otherwise becoming aware of the incident, notify the appropriate regulatory authority of the incident and all relevant information about it.

(4) **Duty of occupier of premises to notify**

The occupier of the premises on which the incident occurs must, as soon as practicable after the occupier becomes aware of the incident, notify the appropriate regulatory authority of the incident and all relevant information about it.

(5) **Duty on employer and occupier to ensure notification**

An employer or an occupier of premises must take all reasonable steps to ensure that, if a pollution incident occurs in carrying on the activity of the employer or occurs on the premises, as the case may be, the persons engaged by the employer or occupier will, as soon as practicable, notify the employer or occupier of the incident and all relevant information about it.

(6) **Extension of duty to agents and principals**

This section extends to a person engaged in carrying on an activity as an agent for another. In that case, a reference in this section to an employee extends to such an agent and a reference to an employer extends to the principal.

(7) **Odour not required to be reported**

This section does not extend to a pollution incident involving only the emission of an odour.

149 Manner and form of notification

(1) If the regulations prescribe the manner or form of notifying pollution incidents under this Part, the notification is to conform to the requirements of the regulations.

(2) Without limiting subsection (1), the regulations:

(a) may require that verbal notification be followed by written notification, and

(b) may provide that notification to a designated person or authority is taken to be notification to the relevant person or authority under this Part.

150 Relevant information to be given

The relevant information about a pollution incident required under this Part consists of the following:

(a) the time, date, nature, duration and location of the incident,

(b) the location of the place where pollution is occurring or is likely to occur,

(c) the nature, the estimated quantity or volume and the concentration of any pollutants involved,

(d) the circumstances in which the incident occurred (including the cause of the incident, if known),

(e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution,

(f) other information prescribed by the regulations.

151 Incidents not required to be reported

(1) A person is not required to notify a pollution incident under this Part if the person is aware that the incident has already come to the notice of the person or authority required to be notified.

(2) A person is not required to notify a pollution incident under this Part if the incident is an ordinary result of action required to be taken to comply with an environment protection licence, an environment protection notice or other requirement of or made under this Act.

152 Offence

A person who contravenes this Part is guilty of an offence.

Maximum penalty:

(a) in the case of a corporation—$1,000,000 and, in the case of a continuing offence, a further penalty of $120,000 for each day the offence continues, or

(b) in the case of an individual—$250,000 and, in the case of a continuing offence, a further penalty of $60,000 for each day the offence continues.

153 Incriminating information

(1) A person is required to notify a pollution incident under this Part even though to do so might incriminate the person or make the person liable to a penalty.

(2) Any notification given by a person under this Part is not admissible in evidence against the person for an offence or for the imposition of a penalty.

(3) Subsection (2) does not apply to evidence obtained following or as a result of the notification.

The Office of Environment and Heritage has developed a simplified guide to this duty which is on its website. Amongst other matters it states:

"Pollution incidents causing or threatening material harm to the environment must be notified.

A pollution incident includes a leak spill or escape of a substance, or circumstances in which this is likely to occur.
Material harm to the environment is defined in section 147. Material harm includes on site harm, as well as harm to the environment beyond the premises where the pollution incident occurred.
If a pollution incident occurs, all necessary action should be taken to minimise the size of any adverse effects of the release. If adequate resources are not available to contain the release and it threatens public health, property or the environment, the NSW Fire Brigades should be contacted"

A2.1 Memorandum of Understanding between Office of Environment and Heritage and Fire and Rescue NSW

In May 1997 The Environment Protection Authority and NSW Fire Brigades entered into a Memorandum of Understanding.[14]

In this MOU it recognises that "hazardous materials incidents present a significant risk to people, property and the environment"

Page 2 of the MOU- point 1: *Hazardous Materials Incidents Notification Protocol* notes:

- The EPA and NSWFB are to maintain a formal hazardous materials incident notification protocol.
- The NSWFB must notify the EPA of incidents, emergencies and fires involving hazardous materials as agreed to by the NSWFB and the EPA
- If the EPA Duty Hazmat Advice Coordinator is notified of a hazardous materials incident from sources other than the NSWFB, the EPA is to notify the NSWFB of the incident details.

The Guidelines attached to the MOU and revised in February 1998 reinforce the need for both parties to notify each other. However neither the Act nor the MOU mandate the requirement to report incidents or specify the appropriate timing of notification. In this case, twenty two and a half hours lapsed before OEH advised FRNSW.

RECOMMENDATION: 3

The MOU between OEH and FRNSW be amended to make it mandatory that immediately or within one hour of becoming aware of a hazardous material spill the agency who receives the notification must notify the other party covered by the MOU.

A3. Fire and Rescue NSW

The Fire Brigades Act 1989 details the responsibilities of FRNSW. Under the Act, the FRNSW Commissioner has powers and authorities to prevent and respond to fires, hazardous material incidents, rescues and other emergencies.

The Act gives FRNSW the authority (amongst other things) to:

[14] FRNSW Folder 1 Tab 4 – page 2

- Proceed with speed to suspected fires or hazardous material incidents. (s11)
- Take possession of buildings and vessels during fires or hazardous material incidents. (s16)
- Close streets and public places in the vicinity of a fire or hazardous material incident.(s14)
- Take measures anywhere in NSW where life or property are threatened whether or not there is a fire or hazardous materials incidents (s7)
- Remove any person, vehicle or vessel in the vicinity of a fire or hazardous material incident that might impede the work of the fire brigade (s19)

A4. Police and Emergency Services]

Police and emergency service agencies have no legislative responsibility to ensure that any obligations of companies involved in the industrial use of hazardous materials in relation to notification to authorities are met.

Part 5.7 of the Protection of the Environment Operations Act 1997 (POEO Act) is particularly relevant to Fire and Rescue NSW (as an emergency service) because the MOU between OEH and FRNSW requires that if the OEH duty Hazmat Advice Coordinator is notified of a hazardous materials incident from a source other than FRNSW that the OEH is to notify FRNSW of the incident.

A5. WorkCover

Section 86 of the Occupational Health and Safety Act requires the occupier of any place of work to notify WorkCover of 'any serious incident' at the workplace and of any incident that is required by the regulations to be notified. Section 86 (2) states that such notice must be given as soon as practicable (but not later than 7 days) after the occupier becomes aware of the incident, and in a manner and form required by the regulators. Section 86 (3) requires notice of a serious incident to be given 'immediately the occupier becomes aware of the incident', and by the quickest available means.

Section 87 defines a serious incident as an incident that has resulted in a person being killed, or any other incident prescribed by the regulations for the purpose of the definition.

Clause 344 of the OHS regulation states:

For the purposes of the definition of a serious incident in section 87 (1) of the Act, the following incidents at or in relation to a place of work are prescribed:

(vii) A spill or incident resulting in exposure or potential exposure of a person to a notifiable or prohibited carcinogenic substance (as defined in Part 6.3)

Please note that the National Work, Health and Safety legislation is due to commence in jurisdictions from January 2012. Under new laws, incidents such as fatalities, serious injuries and illnesses, and dangerous incidents must be notified to WorkCover immediately. Annexure 2 refers

A6. Health Department

The Health Department has no legislative responsibility to ensure any obligations of companies involved in the use of hazardous material in relation to notification to authorities are met.

A6. Orica

Refer obligations on Orica as detailed under A1- SEPP No 33 Hazardous and Offensive Development; A2- Protection of the Environment Operations Act 1997; Part 5.7. Duty to notify pollution incidents; A2.1- MOU FRNSW and OEH;

A4- WorkCover Clause 344 under OH&S Act.

The incident occurred at 6pm at Orica plant, Kooragang Island on 8 August 2011.

- The duration of the incident was 15 to 20 minutes.
- 16 ½ hours after the incident Orica notified OEH regional office
- 41 ½ hours after the incident Orica notified Department of Health
- 15 August 2011 Orica submits written notification to OEH

In a response to a question I put to Orica about how the incident could be managed better Orica advised:

Orica has already expressed its regret that the Office of Environment and Heritage was not notified sooner. With the benefit of hindsight, Orica would notify sooner.[15]

[15] Orica Folder 2 Letter 14/9/11 – page 3

Terms Of Reference - B

The operational policies and guidelines that companies involved in the industrial use of hazardous materials have, and are required to have, in place to respond to serious pollution incidents.

Role of Government Agencies:

B1. NSW Department of Planning

State Environment Planning Policy No.33 – Hazardous and Offensive Development (SEPP 33)

SEPP 33 is a systematic approach for assessing development proposals under the Environmental Planning and Assessment Act 1979 (EP&A Act) for potentially hazardous and offensive industry or storage. It is designed for use by local councils that are the relevant consent authority. SEPP 33 introduces performance based definitions of 'hazardous' and 'offensive' and sets out specific assessment requirements for such proposals.

SEPP 33 requires an Applicant for a potentially hazardous industrial development to prepare and submit a Preliminary Hazard Analysis, which a consent authority must consider as part of the overall assessment of the development application.

Hazardous Industry Advisory Paper 12 sets out standard conditions of consent that the consent authority may wish to impose. It includes, amongst other conditions, the following:

..(f) Emergency Plan: A comprehensive emergency plan and detailed emergency procedures for the proposed development. This plan shall include detailed procedures for the safety of all people outside of the development who may be at risk from the development. The Plan shall be in accordance with the Department of Planning's Hazardous Industry Planning Advisory paper No. 1 'Industry Emergency Planning Guidelines'.

Incident Report: Within 24 hours of any incident or potential incident with actual or potential significant off site impacts on people or the biophysical environment, a report shall be supplied to the Department outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures. That report must be submitted to Council no later than 14 days after the incident or potential incident. The Applicant shall maintain a register of accidents, incidents and potential incidents. The register shall be made available for inspection at any time by the independent hazard Auditor and Council.

B2. NSW Police Force

Major Hazard facilities are regulated by WorkCover NSW however Chapter 6(b) of the Occupational Health and Safety regulation 2001 states that NSW Police Force have a role in providing advice to operators of Major Hazard Facilities with respect to the drafting of security and emergency plans respectively.

Major Hazards Facilities are defined under the Occupational Health and Safety regulation and are, in general terms, facilities which use or store (or have the capacity to store) an amount of chemical or gas which is over the threshold amount (defined in schedule 8 of the regulation). This could and does include companies involved in the industrial use of hazardous materials.

WorkCover NSW administers and coordinates a Major Hazard Facilities team which consists of a number of agencies, including the NSW Police Force**.**

B3. Fire and Rescue NSW

The Occupational Health and Safety Regulations 2001 state that an occupier of premises where dangerous goods are stored and handled must ensure that a written plan for dealing with any emergency associated with the storage and handling of dangerous goods is developed, implemented and maintained and communicated.

The regulations state that a draft of the emergency plan must be submitted to the Commissioner of FRNSW and any advice received must be taken into account prior to finalising the plan.

FRNSW provides detailed guidelines for emergency plans at sites having dangerous goods, explosives and Major Hazard Facilities guidance for industry to assist in the development and activation of emergency and incident management.(1)

FRNSW advise that appropriate emergency response plans are reviewed and practised. FRNSW advised that a major operational exercise was conducted on 19 September 2010 at the Orica site involving 6 FRNSW stations and the Newcastle Hazmat crew.

B4. Office of Environment and Heritage (OEH)

OEH makes available guidance and other material to assist companies that handle, store, transport or produce hazardous substances through its website and other publications.

Over 400 licensees (those that undertake hazardous activities) have a licence condition requiring them to have an emergency response plan in place and to implement it as necessary.

The standard licence condition – emergency response plan states:

The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (eg spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which

this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.[16]

B5.WorkCover - Occupational Health and Safety Act

The Occupation and Safety Regulation 2001 requires that an occupier of premises where dangerous goods are stored and handled must ensure that a written plan for dealing with any emergency associated with the storage and handling of dangerous goods is developed, implemented and maintained and communicated. The regulation states that a draft of the emergency plan must be submitted to the Commissioner of Fire and Rescue NSW and any advice received from Fire and rescue NSW must be taken into account prior to finalising the plan.

B6. Orica

Orica Pty Ltd provided the following documents in relation to their Kooragang Island site as evidence of compliance with their obligations: [17]

1. Safety, Health and Environment Standards (SH&E)
2. Community Relations Program
3. Incident Management and Corrective Action.
4. Emergency Plans Policy
5. Coordination with Community Emergency Plans
6. Emergency Response Plan
7. Incident Management & Corrective Action Model Procedure
8. Community Complaint Response
9. Environmental Incident Management
10. Incident Management Code of Practice

[16] OEH Folder 1 Tab 1/B1

[17] Orica Folder 1

Terms of Reference C

The information made available to relevant agencies in relation to a serious pollution incident by companies engaged in the industrial use of hazardous materials, including the time-frames and thresholds for reporting.

C. Time Frames and threshold for Reporting

Under State Environment Planning Policy No. 33 Hazardous and Offensive Development (SEPP 33) there is a duty to report such incidents to Council. Details are covered under **A1.**

There is a duty to report pollution incidents under section 148 of the Protection of the Environment Operations Act 1997 (POEO Act).

Part 5.7 of the Protection of the Environment Operations Act 1997 No 156 specifies the duty to notify pollution incidents. The notification regime is detailed under **A2.**

Section 86 of the Occupational Health and Safety Act requires the occupier of any place of work to notify WorkCover of any serious incident. The obligations are listed under **A5**

C1. Information available to relevant agencies

With respect to the pollution incident which occurred on the 8 August 2011 at the Orica Pty Ltd site at Kooragang Island, I have had submitted from each of the key agencies:

- NSW Police Force.
- Fire and Rescue NSW.
- Office of Environment and Heritage.
- Health.
- WorkCover.
- Ministry for Police and Emergency Services.
- NSW Premiers and Cabinet.
- Orica Pty Ltd.

The:

1. Chronology of Actions Taken
2. Summary of Communications with Affected Community
3. Information provided by Agencies to their respective Ministers
4. Action taken by Ministers

Folder titled COMMUNICATIONS refers.

I have previously outlined in broad terms the timetable as to when Orica Pty Ltd made notification of the incident and the chronology associated with notifications by government agencies. As a result of this time sequence, Police, Ministry for Police and Emergency Services and FRNSW played a minor role in managing the hazmat / pollution incident. WorkCover were focused on the incident as it related to Occupational Health and Safety of the Orica employees whilst OEH and Health focused on the broader incident as it related to

public health and the environment. Health, on being informed of the incident took the Lead role.

C.2. Findings

C2.1. Office of Environment and Heritage (Tab 4)

- At 1030 hours on the 9 August 2011, OEH Hunter regional office received notification from Orica of the incident. Orica advised that it believed it had been contained on site.
- At 1215-1400 hours OEH staff attend the site and were advised that the emission had not been contained and the fall out was visually evident off site on residential properties at Stockton. OEH officers directed Orica to contact Health.

OEH have no legislative authority to direct a company to notify another agency/party.

- At 1050 hours on the 10 August 2011 Orica advise OEH that they have not yet notified Health.

OEH maintain that any company who handle, store, transport or produce hazardous materials and are licensed to do so, must be responsible for all activities associated with that operation. Philosophically, I think most people would agree however OEH should have taken the initiative when first understanding the emission had not been contained (1400 hours on the 9 August 2011) and notified Health.

- Between 1430 and 1645 hours on the 9 August, 2011 OEH began taking samples off site in Stockton. Samples were also taken in the Stockton area between 1145 and 1430 hours on the 10 August 2011.
- At 1645 hours on the 10 August 2011 OEH received interim results from Lidcombe laboratory regarding the samples taken on the 9August 2011.

The Lidcombe laboratory is part of OEH. On 9 August 2011, OEH did not know categorically that Stockton resident's health was NOT at risk. As a precautionary measure, the Lidcombe laboratory should have been contacted on the 9 August and asked to analyse the samples that evening so the results were available later that night for use by other agencies.

Although this delay did not significantly impact on the timing of other actions, it is simply good practice to adopt *worst case scenario* when handling such important matters such as the health of a community.

Apart from the above two matters, the OEH Hunter regional staff worked both professionally and long hours in carrying out their duties. They are to be commended.

C2.2. Communication with affected Communities. (Tab 5)

Once Health was notified of the incident (1130 hours on the 10 August 2011) Health adopted the role of lead agency. OEH worked well with Health in organising additional sampling; reviewing Toxicos' risk assessment as to methods and assumptions; participating in teleconferences with Health; assisting in letter box drops; preparing media releases and attending the community meeting at Stockton RSL.

C2.3. Information to Minister for Environment and Heritage (Tab 6)

- At 1623 hours on the 10 August an early alert was emailed to the Minister's office and followed up approximately 30 minutes later to provide advice on content of the Early Alert.

Given OEH knew of the incident at 1030 hours on the 9 August 2011 (some 32 hours earlier) it would be expected that the Minister/Minister's Office would have received advice by close of business on the 9 August 2011. This would still have allowed OEH time to prepare for the Minister, an overview of the incident and the actions OEH were already taking and proposed to take. Refer Tab 1 Communications Folder.

It is recognised that at this point in time the recovery operation was ongoing. Ministers do not become directly involved in operational matters. That is left to the experts e.g. Police, Emergency Services, Fire, Health etc. but they certainly need to know what actions are being taken and what actions are contemplated. A Minister has an obligation to understand the issues and have the right to seek both clarification and make suggestions on the priorities as to what needs to be done. The on-the-ground actions are left to the trained and qualified experts. To achieve this, a Minister must have information readily available and should a question arise from any source be in a position to answer. This is important for public confidence. A Minister has the right to expect timely communication and it is the agencies responsibility to provide it.

In hindsight, had the Minister received advice by COB on 9August, 2011 consideration could have been given to a media release alerting the public to the incident, with updates following as more information came to hand.

RECOMMENDATION: 4

The Office of Environment and Heritage in concert with the Minister for the Environment and Minister for Heritage and her office and the NSW Department of Premier and Cabinet review the processes and time frame for the submission of information which falls under the 'Early Alert' procedure.

C2.4. Actions taken by Minister for Environment and Heritage (Tab 8)

On becoming aware of the incident at approximately 1700 hours on 10 August and prior to making a Ministerial statement to Parliament the following day (1530 hours on 11 August 2011) there were a number of communications between the Minister's office and the Office of Environment and Heritage.

Parliament has the duty to ensure that the communities it represents are well governed and one of the ways is that members hold each other accountable. That is certainly one of the great strengths of our democracy. I am not making any judgement nor am I commenting on the role and /or actions of any member of parliament with respect to the way this incident has been handled. Nor am I questioning the right of a Minister to make a Ministerial statement. That decision rightly rests with the Minister. However, I make the following observations. Firstly, it was a Ministerial statement made to parliament and not a statement to the public. Orica had issued a media statement some hours before and it wasn't until

1555 hours on that day that Health was in a position to have the first media conference. Secondly once the ministerial statement was made the incident became subject to political debate resulting in strong media interest. The public were exposed to the media reporting of the political debate with claims and counter claims being made. This resulted in increased concerns and confusion in the minds of the public.

I am not suggesting that there should not have been a Ministerial statement but as the records show, once the statement was made, political and media interest intensified, resulting in some confusion and even greater community concern as they struggled to understand the latest information they were reading or hearing about by word of mouth. When I interviewed first responders a common theme was their concern that as the media coverage escalated it was the public who became more and more confused resulting in many members of the public contacting them regularly to seek clarification on what they had heard most recently. The mental health of the community was affected.

Coordinated, accurate and timely information to the public is all important particularly during the recovery operational phase eg the Queensland floods, Thredbo, Waterfall accident.

Government agencies handle numerous incidents, many of which require a single agency response and do not require the deployment of additional resources to that which are readily available. When an incident is on a larger scale a different and more coordinated inter - agency response is required. Please refer to Recommendation 3.

C3.1. Health Department. (Tab 9)

The Health Department via Hunter New England Population Health were first alerted to the incident by Orica at 1130 hours on Wednesday 10 August 2011, some 42 hours after the incident.

As the chronology of actions taken show, Health reacted quickly and in the public interest. Staff worked very long hours and over week ends and are to be commended for the professional services they provided.

The actions in quickly establishing the “Expert Panel’ and meeting in less than 24 hours after becoming aware of the incident demonstrates the strong networks which are required to exist and do exist.

NSW Health conducted a debrief of the Orica chromium incident on the 9 September 2011. (Tab 14). A total of nine areas were identified for follow up. I support the actions suggested as they relate primarily to inter-agency improvements. In respect to Action 3 – Rapid quantitative health risk assessments to guide public health action, I recommend the following:

RECOMMENDATION: 5

The Protection of the Environment Operations Act (1997) and any associated regulations are amended to allow in the event of a hazardous incident the Office of Environment, on advice from the Chief Health Officer to direct the company responsible for the activity to

fund NSW Health for an independent analysis of the health risks associated with a hazardous incident.

NB: This recommendation needs to be read in conjunction with recommendation no.7

As the chronology shows Health required further information from Toxocos who had been contracted by Orica to provide independent advice. I have no question as to the independence of Toxocos however believe that when such an incident occurs, for both speed of meeting the requirements of Health as well as the "perception" of independence, the company should not engage the contracted party, the company should fund and Health should engage.

C3.2. Communication with affected Communities (Tab 10)

The chronology of the communication arrangements implemented by health is recorded in the Communications Folder.

NSW Health, although recognising that the risk to the community was likely to be low delayed external communications whilst they obtained further information as to risk levels and advice from the 'expert panel'. In my opinion this cautious approach is appropriate because the release of early information that may have to be corrected later can cause a loss of confidence by the public. Certainly if the risk was thought to be high Health does react quickly and work on the 'worst case scenario' principle.

C3.3. Advice to Health Minister (Tab 12)

From the advice provided by NSW Health the Minister was kept informed of the actions being taken by Health at appropriate intervals.

C3.4 Health Minister's Actions (Tab 13)

As advised by Health the Minister was kept abreast of the actions being taken. An overview email was forwarded to the Minister's office on the evening of the 10 August and the Chief Health Officer provided a number of verbal updates as additional information became available.

The Minister/office was particularly focused on ensuring communications in relation to the assessment of risks to public health and actions to mitigate any risks occurred at the earliest opportunity. Refer communications folder Tab 13

C4.1 WorkCover (Tab 16)

Orica contacted WorkCover Strategic Assessment Centre at 1110 hours on 9 August 2011. WorkCover recorded the incident as:

- Part of plant became over pressurised, chrome released into the workplace
- Workplace is in the process of being cleaned up
- No injuries.

WorkCover determined the incident not to be serious and allocated it to the Regional North Team.

At 1243 hours WorkCover received a call from a person claiming to be an employee of Orica who advised that there was an exposure / spill of hexavalent chromium at the site and all workers were sent home. No injuries.

The Strategic Assessment Centre again determined the notification not to be serious.

For an incident to be considered serious the following criteria, under clause 344 of the OH&S Regulation apply:

- Any incident that presents an immediate threat to life from an uncontrolled escape of gas, dangerous goods or steam
- Any incident that presents an immediate threat to life from a spill or incident resulting in exposure to or potential exposure of a person to a notifiable or prohibited carcinogenic substance
- A major accident at a major hazard facility (MHF)

According to the above criteria the incident should have been determined as serious. It was not.

Under WorkCover's Strategic Assessment Centre protocol for the notification of incidents at major hazard facilities, the Major Hazard facilities Team is to be notified by email. This did not occur when the original notification was made.

RECOMMENDATION: 6

WorkCover review its notification system and associated protocols.

WorkCover to ensure the content of initial training and refresher training provided to staff of the Strategic Assessment Centre including the relevance of the template of questions to be asked of the notifier.

C4.2 Communication with affected Communities

Not applicable

C4.3 Advice to Minister.(Tab 16)

By way of summary the following is noted:

August 11	Copy of Brief outlining result of site inspection sent to departmental liaison officer at minister's office
12 August	Critical incident report forwarded to Minister's office.
	House Folder note provided
16 August	Update to House Folder note
18 August	Ministerial Briefing note
23 August	Updated House Folder note

C4.4 Finance Minister's Actions. (Tab16: pg.24)

WorkCover advise no instructions were received by Minister

C5.1 NSW Department of Premier and Cabinet (Tab 19)

It should be noted that the Director General received notification of the incident on the morning of the 12 August 2011, 3 ½ days after the incident occurred at the Orica plant. Refer Recommendation 4.

C5.2. Communication with affected Communities. (Tab 19)

The Director General advised on Tuesday 16 August 2011 he was involved in discussions with the Premier's and the Minister for the Environment and Heritage's office re the Department of Health 'fact sheet'

C5.3. Advice to Premier/Minister for Environment and Heritage. (Tab20)

The Director General (DG) advised that at his meeting with the CEO of OEH (12 August, 2011) he was informed that the Minister for Environment and Heritage's office was briefing the Premier's office.

Over the week end of 13- 14 August 2011 he was contacted by the Minister for Environment and Heritage's Chief of Staff in relation to the possible Terms of Reference for an Inquiry and names of people as to who might conduct it.

On Tuesday 16 august 2011, the DG held discussions with the Premier's and the Minister's office re the terms of the 'fact sheet' from NSW Health. Further discussions were held over the next two days re the conduct of the Inquiry.

On 19 August 2011 the DG discussed with the Premier his intention to call the Orica CEO and his intention to meet with him on Monday 21 august 2011. After that meeting the DG briefed the Premier's office.

C5.4. Premier's Actions (Tab 21)

10 August	Minister for Environment and Heritage advise possibility of media story regarding an incident in Newcastle
11 August	Premier's COS advised of the incident by Minister Parker and her Chief of Staff (COS) following discussion on another matter.
	Premier advised and it is agreed that Minister Parker should make a Ministerial Statement on the issue.
14 August	Premier's Policy Director received email from Minister Parker's COS with draft Terms of Reference which are forwarded to DPC for review on Monday, 15 August.

C6.1. Orica

Chronology of notifications (Tab 22)

Communications with communities (Tab23)

The incident occurred at around 1730 to 1800 hours on the 8 August 2011.Although Orica acted within the existing legislative time frames pertaining to their obligations to notify the incident,(POEO Act) Orica have expressed its regret that the Office of Environment and Heritage was not notified sooner and with the benefit of hindsight Orica would have notified sooner. Orica advised OEH at 1030 hours on the 9 August 2011.

This delay had a direct impact on the time taken by a number of Agencies in carrying out their duties.

Orica did not meet its obligations to notify Newcastle City Council in accordance with SEPP 33.

Furthermore at 1215 -1400 hours on the 9 August 2011 when Orica knew the emission had not been contained on site and were advised by OEH to notify NSW Health, they should have done so. Orica only notified Health at around 1050 hours the following day ie 10 August 2011.

Orica notified WorkCover at 1110 hours on 9 August 2011. Between 1215 – 1400 hours, when Orica knew the emission was not contained on site they failed to disclose this information to WorkCover

C7. Changes affecting the Environment Protection Authority (EPA)

In September 2003 all branches were removed from the Environment Protection Authority and encompassed under the Department of Environment and Conservation. (DECC) The group of staff attached to the EPA were abolished as a Department of the NSW Public Service and transferred to DECC.

In July 2009 the name of the Department was changed to the Department of Environment, Climate Change and Water (DECCW)

In April of this year the Department of Environment Climate Change and Water ceased being a stand alone Department and became known as the Office of Environment and Heritage (OEH). Its administrative reporting line is to the NSW Department of Premier and Cabinet (DPC). The CEO of OEH reports to the Director General, DPC.

As can be seen, over the past decade there have been a number of changes in the organisational structural arrangements which have impacted on the environment protection arm of this agency. The government, on coming to power earlier this year has expanded on the approach introduced by the previous government in adopting a policy of minimising reporting lines and amalgamating ‘like or related’ activities across the NSW public sector. This is a similar trend in what has occurred in other jurisdictions, particularly Queensland and Victoria. There are a number of reasons for this including:

- Larger agencies help to create a ‘one stop shop’ for members of the public.
- It provides efficiencies particularly in reducing overhead / back of office costs.
- Provides a stronger career path for staff.
- Reduces silo mentality and assists in creating a whole of government approach.

A negative of such an arrangement is resources can be diluted in so far as the span of control of managerial positions can be increased and 'specialisation' of professional officers can over time, move to a more 'general' role.

There can be no argument that public awareness of environmental issues and the protection of the environment have, over the past decade, increased. Similarly the role of the regulator and the onus on companies who are involved in hazardous material (be it, handling, storing, transporting or production) to have systems, processes and approved emergency and incident plans have also become more stringent. With this comes the need for greater monitoring.

Currently around 2,600 activities hold an environment protection licence. Over 400 of these licensees (those that undertake hazardous activities) have a licence condition requiring them to have an emergency response plan in place and to implement it as necessary.

Currently OEH consists of eight directorates; [18]

1. Environment and Heritage Policy and Programs Group.
2. Environment Protection and Regulation Group.
3. Parks and Wildlife Group.
4. Country, Culture and Heritage Division.
5. Corporate Services Division.
6. Royal Botanic Gardens and Domain Trust.
7. Scientific Services Division.
8. Waste Strategy and Program Delivery

As can be seen the OEH has a diverse range of activities and responsibilities and given the reasons stated above it is:

RECOMMENDATION: 7

- **The Environment Protection and Regulation Group, by Administrative Order be created separately as an independent Environmental Regulatory Authority headed by a Chief Environmental Regulator who has appropriate qualifications and experience.**
- **An Independent Board be established whose membership be drawn from people with regulatory expertise as well as representatives from community interests.**
- **Consideration is given to establishing community reference groups at strategic locations across NSW to assist the Authority in its deliberations.**
- **The Director General DPC review what other existing functions within OEH should also be transferred to the proposed independent Environmental Regulatory Authority.**
- **The proposed independent Environmental Regulatory Authority has its corporate service requirements met through OEH's existing corporate services division.**

[18] OEH Folder 1 Tab B

Terms of Reference: D

The information made available to affected communities in relation to a serious pollution incident, by the company involved and by relevant agencies; including what alternative or additional communication channels may be available.

ORICA

D1. Summary of Communications with the public:

Summary of Orica Public Communications in Relation to Kooragang Island Incident, 8 August 2011

Date	Type of Communication	Title	Distribution
10 August 2011	Script	Script for Orica employees when speaking to residents	Internal distribution to employees for doorknocking purposes
10 August Doorknocking commenced at 2 pm.	Questions and Answers	Questions & Answers V5	Internal distribution to employees for doorknocking purposes
11 August	Media Release	Chemical Release at Orica's Kooragang Island site.	All media outlets
13 August	Media Release	Update: Orica to begin clean up of resident properties	All media outlets
14 August	Media Release	Update: 'No health risk' to community confirmed and community forum to be held	All media outlets
15 August	Community Fact Sheet	Community Update: Chemical Release at Orica's Kooragang Island site.	Letter box drop to Stockton residents
17 August	Flyer	Stockton Community Meeting	Letter box drop to Stockton residents
17 August	Media Release	Media Alert: Community meeting confirmed	All media outlets

Date	Type of Communication	Title	Distribution
17 August	Media Release	ASX Announcement CHEMICAL RELEASE AT KOORAGANG ISLAND SITE	ASX
18 August	Public Meeting held	Media Release: Orica community meeting update	All media outlets
19 August	Media Release	Media Update: Stockton bore water safe to use	All media outlets
19 August	Advertisement	Stockton Bore Water safe to use	Newcastle Herald and Stockton Messenger
Date	Type of Communication	Title	Distribution
19 August	Community Fact Sheet	Community Update: Orica community meeting	Letter Box drop to Stockton residents
20 August	Media Release	Media release: Orica provides details or arsenic discharge	All media outlets
20 August	Media Release	Media release: Orica welcomes opportunity to speak with NSW government	All media outlets
23 August	Media Release	Media release: Orica welcomes environmental audit	All media outlets
23 August	Media Release	Media release: Orica Ammonia Plant Shutdown Requires Oil Pumps to be Turned On	
2 September	Media Release	Orica Releases Toxicology Report into Kooragang Island Incident	All media outlets

Copies of the above ORICA material is available in Orica Folder 2 (TAB 2)

In response to my question to ORICA on how communications with the community may be improved ORICA advised:

Community feedback following the recent incident has sent a clear message to Orica that the nearby and wider communities expect more information on the site in a timely manner and greater engagement with Orica. Orica is committed to meeting the expectations of improved community engagement. This public commitment to improved community engagement is set out in our first Community Newsletter dated 9 September 2011. A copy is attached.[19]

D.2 Information made available to affected communities by relevant agencies

The information made available by relevant agencies is addressed under Terms of Reference **C.**

D.3 Community Satisfaction with communications (Tab 24)

Following a series of questions put to Orica by New England Health on 11 August 2011, Orica had prepared a detailed report which included, amongst other advice, the emission point in comparison to Stockton and a diagram showing the wind direction at the time of the incident.[20] Based on this information, sampling etc. of the possible off site pollution points was used by Orica, OEH and Health.

Given the fact that two public meetings had occurred previously; first responders had spoken to a number of residents; fact sheets had been made available and an Upper House Inquiry has been announced I elected not to impose on residents another public meeting. I also understand that the Inquiry has also invited public submissions.

In order to gain an understanding as to the location of these sites to Kooragang Island I visited and walked the designated area. (Fullerton, Griffith, Barrie, Flint, Dunbar and Mitchell Streets). Whist doing so, I letterbox dropped over 100 homes and invited residents to inform me as to when and how they heard about the pollution incident and their level of satisfaction and suggestions on how communication could be improved.

Sixteen residents replied.[21]

In all but a couple of responses residents expressed their lack of satisfaction as to the timeliness of information, its content and their feelings of concern about health impacts. The earliest residents received information was on the 11 August and that was predominantly through the nightly radio / TV news or by word of mouth.

From the responses received, residents believe that the most appropriate method(s) of informing them of a pollution incident (their suggested priority) is:

[19] Orica Folder 2 Letter 14/9/11 – page 3
[20] Police Folder 1 Tab 3 – Health Com Folder Tab 9 – page 34
[21] Communication Folder Tab 9

1. Telephone Alert
2. Community Alarm/ door knocking
3. Media
4. Letter box drops
5. Public meetings/information hotline

With regards to the Telephone Alert System via a Location Based System (LBS) advice has been received from Ministry of Police and Emergency Services that the development, maintenance and enhancement is led by the Victorian department of justice in consultation with other jurisdictions. It is unlikely that LBS could be implemented earlier than mid-late 2012.[22]

[22] Emergency Services Folder Tab B

Terms Of Reference: E

Inter-agency communications and response arrangements in relation to serious pollution incidents:

1. Refer Point 4 - 8 (pages 2-8)
2. A2.1 (page 20)

Following on from my discussion with NSW Police I was advised that as part of major hazard facility planning the Botany Bay Precinct Emergency Sub Plan has been developed to provide warning of, and response to, major incidents or emergencies that may affect the key infrastructure within the Precinct.[23] Of note are the major fuel and hydrocarbon shipment, transfer and storage facilities and large chemical manufacturing and storage facilities.

To develop the Precinct Sub-Plan a working party of key stakeholders was formed to examine existing arrangements. The intent was to confirm that there were appropriate arrangements to manage the emergency management consequences within the Precinct.

In the planning process the working party considered:

- The nature and volatility of products stored at facilities within the Precinct
- High population surge and density during peak work periods
- Significant tidal flow of population and vehicular traffic
- The impact of heavy industry and hazardous facilities

It was identified that the arrangements needed to achieve the following outcomes:

- Effective public information strategy
- Safe mass movement of pedestrian to transport nodes or safety sites
- Effective traffic management
- Safe mass gatherings when required
- Transport contingency Plans
- Safe and timely egress from the affected area to home or alternative accommodation, if necessary

Using the all hazards approach the plan effectively provides for prompt, planned and easily articulated management and evacuation strategies in the event of a major incident or emergency.

Given the type and nature of industry at Kooragang Island and surrounding areas, there would be much benefit for a Sub Precinct Plan to be developed.

[23] NSW Police Folder 1 Tab 39

RECOMMENDATION: 8

A Precinct Plan, similar to the Botany Bay Precinct Emergency Sub Plan be developed for Kooragang Island and appropriate surrounding areas as determined by the State Emergency Management Committee

Terms of Reference. F

The Guidance provided to front line responders to serious pollution incidents, including guidance concerning their communication with the community.

F1. NSW Police Force

The NSW Police Force advises that it maintains a corporate document titled Incident and Emergency Standing Operating procedures (IESOPs) which is administered by the Police Emergency Management Unit. A review of this document was completed in June 2011 and is currently being reprinted.

The document has been designed to assist police in the discharge of their legislative responsibilities, in particular, those relating to the protection of life and property. They provide procedural details and set out:

- The functions of the various Police sections/Units and how they can be of assistance;
- Information in regard to the availability of resources, not only police resources but also those belonging to other agencies; and
- The emergency management arrangements provided for in the State Emergency and Rescue Management Act 1989 (as amended)

Part 2- section 33 provides a Hazardous Materials Action Check Sheet and Explanatory Notes for front line police.

The Counter Terrorism & Special Tactics Command has also developed two documents titled “Standing Operating procedures- Notification of Suspicious substance and Chemical Biological, Radiological and Nuclear Incidents” and “Major Hazards facilities security Handbook”.

These two documents relate largely to matters such as the suspected theft, spillage or misuse of radiological sources and/or chemicals of security concern.

F1.1 Advice to Community

Section 312 of the State HAZMAT/CBR plan details “Management of information will be undertaken in accordance with the Public Information Services Functional Area Supporting Plan”.

F2. Fire and Rescue NSW

Fire and Rescue NSW advise that:

- Every response fire unit carries a Hazardous Materials Response guidebook that lists chemicals by UN name and number (a unique identifier used when transporting) and provides advice on precautions, safety, Personal protective equipment (PPE) etc.
- HAZMAT Action Guide forms which are used to record actions, precautions, safety etc. from information transmitted to the on-scene crews from the Communication

centre which has access to both a comprehensive on-line chemical data base and hard copy reference books.

Further advice is available from another extensive chemical data base maintained by the HAZMAT Unit. Primary HAZMAT vehicles carry laptops with this data base which means it is available on scene at an incident.

High end specialist HAZMAT support is available from FRNSW two Scientific Officers, who can respond with high-tech detection and monitoring equipment in the scientific van or helicopter- this includes plume modelling capability.

If the chemical is known from the triple zero caller the chemical details can be provided to the responding crews at time of dispatch, either over the radio or on the hard copy dispatch print out. If the chemical is unknown FRNSW take precautions for the worst possible scenario.

F2.1 Advice to the Community

FRNSW often takes the lead in proactively providing warnings and information to the community during emergencies. Such warnings and information are routinely provided to media outlets by the FRNSW Communications Centres and Operational Media Coordinator.

All FRNSW senior officers are trained in media management and Incident Management Teams in the Sydney metro area have an assigned Operational Media Officer.

Specialist Officers eg. Response Coordinators and Community Safety Managers have been trained in the use of the Emergency Alert system and the incident management system has a media/public information cell as part of the incident management structure.

F3. Office of Environment and Heritage

A range of guidance material is available to assist OEH officers to respond to pollution incidents. The Hazardous Materials Incident Management Guidelines is the most relevant.[24]

F3.1 Advice to the Community

There is currently no formal guidance relating to responding to the community.

OEH advise all line managers and senior OEH officers must undertake media training and refresher courses are run periodically.

OEH advise that communication strategies, which include communicating with affected members of the community, are developed and tailored for specific incidents in consultation with OEH's Public Affairs branch.

OEH has also advised that as part of their reviewing the Orica incident it has identified the need to develop a formal communication protocol that includes engaging with and providing information to the community.

[24] OEH Folder Tab A – page 5 (14)

F4. Health

NSW Health has a specific HAZMAT/CBR protocol. Paramedics are given instruction in recognition of hazardous material incidents and the application of appropriate personal protective clothing and equipment. Paramedics take guidance from FRNSW.

F4.1 Advice to the Community.

Owing to the role of Health and its daily interface with members of the public together with regular media interest and coverage on wide ranging matters, Health has a well developed media / communications training program. Communications with the public is well devolved at both the central and hospital network level.

F5. WorkCover

WorkCover advise that it has a comprehensive training program for WorkCover Inspectors who respond to incidents and conduct investigations. WorkCover inspectors have powers under the OH&S Act 2000, Explosives Act 2003 and Associated regulations, to enter workplaces for the purposes of undertaking investigations into potential breaches of legislation. WorkCover inspectors work closely with agencies who lead the primary field responses to chemical and/or pollution incidents or emergencies. WorkCover has a key role in supporting agencies including FRNSW (Hazmat unit), NSW Police and OEH who are trained in and equipped for primary incident control and site clean-up.

All newly appointed WorkCover inspectors are provided with training ie. New Inspector Training Program (NITP). This program consists of 17 weeks of intensive formal class room based learning blocks coupled with 23 weeks of structured field experiences to apply the class room based learning. Incorporated into the NITP are a range of training modules specifically related to hazardous substances and dangerous goods. [25]

F5.1 Advice to the Community

WorkCover advise that it does not have a role to provide information to affected communities in relation to pollution incidents. Information in relation to public health is provided by the lead agencies.

F6. Orica

The site has a Site Community Liaison Officer. This officer has received initial and periodic on the job training and mentoring for the community liaison role. Orica also has a number of relevant company policies. Orica advise that due to the nature of this incident, the community liaison arrangements were coordinated at a more senior level through the crisis management team formed to manage all key aspects of the incident.

F6.1 Advice to the Community.

Orica advise:

> *In 2005 Orica interviewed key stakeholders and undertook a community survey during the development of the community engagement program. The key outcomes*

[25] Workcover Folder Tab 7

were that people preferred information through an annual calendar, articles in the paper and specific mailouts.

Orica also periodically sends out information to the community to advise them of particular events, for example the start of the Ammonia plant Turnaround.

In addition, Orica provides the community with information on its business activities, products and emergency plans via several mechanisms including by annually updating and providing the community with a calendar detailing emergency procedures, regularly updating the www.orica.com website.[26]

A community liaison committee, known as the Kooragang Island Reference Group was established in 2005, it meets twice a year and minutes of the meetings are available.

F7 Preparedness Training

F7.1 Government Agencies

The major Agencies involved in HAZMAT/CBR response, regularly participate in training exercises designed to test their understanding and ability to meet emergencies situations involving a range of scenarios including dangerous chemicals etc. These exercises are designed to not only test an individual agencies ability to respond to an emergency but how well agencies, who although having different responsibilities and expertise work with each other to make an area safe eg Health, Police, Fire, Environment, Transport etc.[27]

F7.2 Orica

Orica Pty Ltd advise that the company conducts regular emergency response exercises quarterly, in accordance with the Emergency response Plan. The response exercises vary in size and scale. The last such exercise occurred in March 2011.

The last major emergency response training exercise occurred in September 2010. It involved the FRNSW and Ambulance NSW and Orica Operations and Site Incident Management Team personnel.

The focus of the exercise was to test the capability of Orica's Kooragang Island site team, in conjunction with the FRNSW and other emergency services, to respond to an emergency situation involving the prolonged loss of containment of liquid ammonia and the subsequent effects of this release on nearby personnel. The exercise lasted approximately 2 hours and was followed by a debrief to ensure learnings from the exercise were captured.[28]

The emergency response exercises conducted between government agencies and between government response agencies and companies are critical to ensuring that should an emergency or an incident occur all parties are not only aware of their role but emergency plans remain contemporary.

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[26] Orica Folder 2 Letter 9/11 – page 2 (2)

[27] Police Folder 1 Tab 38 – page 10, FRNSW Folder Tab 3, OEH Folder Tab A – page 4, Health Folder Tab 1 – page 7

[28] Orica Folder 2 Letter 9/11 point 3 – page 4

Policies and procedures are in place at both the government agency level and the company level to pass on information to the public. I believe that there would be much benefit to all parties if exercises involving not only response training but also community information and engagement also featured as part of future response exercises. Just as the employee is a key stakeholder when an incident occurs on site there are times when an emergency/incident is not contained and the public also becomes a key stakeholder. Obviously this needs to be carefully managed so that there is no public confusion as to when it is a training exercise that is being conducted as against when an emergency is actually occurring. Response agencies however are well versed in alerting the public, through various media channels as to when an exercise is planned.

RECOMMENDATION: 9

Periodically, Emergency Response Exercises be developed and implemented to incorporate both the media and the public as part of the exercise to test and evaluate the most appropriate means of communication, the clarity of information, its timeliness and public satisfaction levels.

Approaches Taken In Other Jurisdictions

State Disaster Plan

The State Disaster Plan (Displan) was first legislated in 1989. Since 1989 there have been nine reviews of the plan, including complete reprints of the plan in 1994, 2000, and 2005. The most recent amendments to the Displan were approved by the Minister in July 2010.

In March 2011, the State Emergency Management Committee, following on from the recent modernisation of the State Emergency and Rescue management Act 1989, approved a complete review of the State Disaster Plan, including an extensive consultation process with all key stakeholders.

The process is headed by the chair of the Committee, Mr Phillip Koperberg AO,AFSM.,BEM. Results of the Review are expected to be presented to the State Emergency Management Committee by the end of 2012.

The research process associated in reviewing the Displan involves review of both inter-jurisdictional and international analogue documents. Applicable and beneficial aspects of such documents have been incorporated where relevant to the NSW context.

HAZMAT/CBR Plan

This Plan is specifically for a Hazardous Material / CBR event requiring a significant and coordinated response from a number of agencies to effectively prevent, prepare, respond and recover from the emergency.

The plan was last reviewed in June 2005 however the state HAZMAT/ CBR steering committee is currently reviewing the plan. An updated version is expected to be submitted for the approval of the State Emergency Management Committee at its December, 2011 meeting.

The research process is similar to that detailed under the Displan.

Legislation

Annexure 2 of this Review outlines a summary of the legislation which exists in other jurisdictions.

It should be noted that the National Work Health and Safety legislation is due to commence in jurisdictions in January 2012. Under new laws, incidents such as fatalities, serious injuries and illness and dangerous incidents must be notified immediately to WorkCover.

ANNEXURE i

REVIEW INTO SERIOUS POLLUTION INCIDENTS

TERMS OF REFERENCE

AUGUST 2011

Mr Brendan O'Reilly AM is authorised by the Director General of the Department of Premier and Cabinet, both generally and under section 159A of the *Public Sector Employment and Management Act* where applicable, to conduct a review on his behalf.

The review is to consider the response to the incident that occurred at the Orica Australia Pty Ltd ("Orica") Ammonium Nitrate Plant at Walsh Point, Kooragang Island, in the Hunter River near Newcastle on 8 August 2011 ("the Incident") and, having regard to that Incident, is to identify any improvements that could be made to the following to ensure effective processes for responding to serious pollution incidents and for communicating accurate and up-to-date information to affected communities:

(a) The obligations on companies involved in the industrial use of hazardous materials to notify serious pollution incidents to relevant authorities and to the community under relevant NSW legislation, regulations, and licences;

(b) The operational policies and guidelines that companies involved in the industrial use of hazardous materials have, and are required to have, in place to respond to serious pollution incidents;

(c) The information made available to relevant agencies in relation to a serious pollution incident by companies engaged in the industrial use of hazardous materials, including the timeframes and thresholds for reporting;

(d) The information made available to affected communities in relation to a serious pollution incident, both by the company involved and by relevant agencies, including what alternative or additional communication channels may be available;

(e) Inter-agency communication and response arrangements in relation to serious pollution incidents; and

(f) The guidance provided to front-line responders to serious pollution incidents, including guidance concerning their communication with the community.

The review is to have regard to approaches taken in other Australian and international jurisdictions and may also consider any other relevant matter.

The key deliverable is a report to the Director General on the matters that are the subject of the review, which may also make recommendations in relation to those matters.

A final report will be submitted to the Director General by 30 September 2011.

	NSW	Victoria	South Australia	Queensland	California	European Union	Ontario, Canada
Pollution regulation	*Protection of the Environment Operations Act 1979* (POEO Act) Contains a list of scheduled activities that require an environmental protection licence (EPL). E.g. chemical production and chemical storage are scheduled activities that require an EPL. Can be issued conditionally or unconditionally. Ch 3 Pt 3.5 outlines particular licence conditions (non-exclusive, examples only). Orica EPL 828 includes a condition requiring the preparation of an Emergency Response Plan. OEH advises that around 414 of the approximately 2600 EPL's are issued subject to this particular condition. All licence holders must: • comply with the conditions of their licence • pay annual administrative fees and, in some cases, additional fees • submit annual returns outlining compliance with the conditions of the EPL – a statement of compliance is required to be certified by a CEO or other senior company official. The appropriate regulatory authority is required to review each EPL at intervals not exceeding 5 years after the issue of the licence. Licence reviews are publicly advertised and any submissions received are considered. The EPA must audit, on an industry wide or regional basis, compliance with EPL requirements under the POEO Act and whether such requirements reflect best practice in relation to the matters regulated by the licences. Part 5.7 of the POEO Act requires that pollution incidents causing or threatening material harm to the environment must be notified to the appropriate regulatory authority. 'Pollution incident' is defined 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	*Environment Protection Act 1970* Similar arrangement to NSW *Protection of the Environment Operations Act 1979* (POEO Act), in that certain polluting activities are required to have a licence. Reform is currently underway to streamline and standardise licence conditions. There is no express "duty to notify" equivalent to Part 5.7 of the NSW *Protection of the Environment Operations Act 1979*. Standard licence condition G3 requires that a licence-holder 'immediately notify EPA of non-compliance with any condition of this licence' and guidance clarifies 'immediately' as meaning 'the earliest practicable moment'. The licence management guidelines (to be read in conjunction with the more streamlined and standardised licences, state that: the EPA must be notified at the earliest practicable moment as soon as you become aware of: • any discharge to air, water or land that is not covered in your licence • an imminent threat to the environment or human health • a situation that may	*Environment Protection Act 1993* A person must not undertake a prescribed activity of environmental significance except as authorised by an environmental authorisation in the form of a licence issued under the Act. The EPA may impose conditions of an environmental authorisation with respect to such matters as are contemplated by this Act or as the Authority considers necessary or expedient for the purposes of the Act. Pt 6 Div 5 lists special conditions that may be included (non-exhaustive, just examples), including section 53 which states that: The Authority may, by conditions of an environmental authorisation— a) require the holder of the authorisation to prepare, in accordance with specified requirements and to the satisfaction of the Authority, a plan of action to be taken in the event of emergencies that might forseeably arise out of the activity undertaken pursuant to the	*Environment Protection Act 1984* Requires that any person carrying out an environmentally relevant activity (ERA) must hold, or be acting under, a registration certificate for the activity. All operators are also required to have a development approval for the activity, unless a code of environmental compliance applies to the activity. S 320 of the Act applies to a person who, while carrying out an activity (the *primary activity*), becomes aware that serious or material environmental harm is caused or threatened by the person's or someone else's act or omission in carrying out the primary activity or another activity being carried out in association with the primary activity. 'Environmental harm' is defined as any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance. It may be caused by an activity— (a) whether the harm Is a direct or indirect result of the activity; or (b) whether the harm results from the activity alone or	Health and Safety Code - local and regional authorities have the primary responsibility for control of air pollution from all sources, other than emissions from motor vehicles. §42300 (a) empowers district boards to establish, by regulation, a permit system. All significant spills or threatened releases of hazardous materials, including oil and radioactive materials, must be immediately reported. Notification shall be made by telephone (California Health and Safety Code §25507 + Federal Emergency Planning and Community Right-to-Know Act section 304). These reports are published online "Threatened release" means a condition creating a substantial probability of harm, when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment.	Directive 2010/75/EU Defines the obligations to be met by industrial activities with a major pollution potential and establishes a permit procedure. Article 7 states that: in the event of any incident or accident significantly affecting the environment, Member States shall take the necessary measures to ensure that, among other things, the operator informs the competent authority immediately. Article 14 requires permits to include conditions/ measures relating to conditions other than normal operating conditions such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations.	*Environmental Protection Act 1990* Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. There are separate environmental approvals for: air and noise; waste; and sewage. Clause 92 of the *Environmental Protection Act 1990* requires the following: (1) Every person having control of a pollutant that is spilled and every person who spills or causes or permits a spill of a pollutant shall forthwith notify the following persons of the spill, of the circumstances thereof, and of the action that the person has taken or intends to take with respect thereto, (a) the Ministry; (b) any municipality within the boundaries of which the spill occurred or, if the spill occurred within the boundaries of a regional municipality, the regional municipality; (c) where the person is not the owner of the pollutant and knows or is able to ascertain readily the identity of the owner

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	placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise. 'Material harm to the environment' is defined in section 147. Material harm includes on-site harm, as well as harm to the environment beyond the premises where the pollution incident occurred. The duty to notify provisions do not extend to a pollution incident involving only the emission of odour. The following people have the duty to notify: • the person carrying on the activity; • an employee or agent carrying on the activity; • an employer carrying on the activity; and • the occupier of the premises where the incident occurs Section 148 requires the notification to be given as soon practicable after the person becomes aware of the incident. All EPL's also contain a standard condition requiring notifications to be made by telephoning the Environment Line Service, and the provision by the licensee of written details of the notification within 7 days of the date on which the incident occurred. Failure to notify under Pt 5.7 is an offence. The maximum penalty is $1,000,000 for corporations, or $250,000 for individuals. There is no statutory requirement in the POEO Act requiring the community to be notified of an incident that has been reported in accordance with Pt. 5.7, whether by the licence-holder or the appropriate regulatory authority. *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) SEPP 33 is a systematic approach for assessing development proposals under the *Environmental Planning and Assessment Act 1979* (EP&A Act) for potentially hazardous and offensive industry or storage. It is designed for use by local councils that are the relevant consent authority. SEPP 33	affect or generate complaints from neighbours • any other breach of your licence obligations. All licence-holders are required to submit an annual performance statement (APS) in accordance with Section 31D of the Act, demonstrating performance against each licence conditions.	authorisation, or activities previously undertaken at the place to which the authorisation relates, and involve the risk of material or serious environmental harm; and b) specify the inquiries to be made prior to the preparation of the plan; and c) specify the qualifications of the person who may be appointed or engaged by the holder of the authorisation to conduct the inquiries and prepare the plan; and d) require the holder of the authorisation to publish the approved plan or an outline of the plan in a manner specified in the conditions. Section 83 provides that if serious or material environmental harm from pollution is caused or threatened in the course of an activity undertaken by a person, the person must, as soon as reasonably practicable after becoming aware of the harm or threatened harm, notify the Authority of the harm or threatened harm, its nature, the circumstances in which it occurred and the action taken to deal with it.	from the combined effects of the activity and other activities or factors. 'Material environmental harm' is defined as environmental harm (other than environmental nuisance)— (a) that is not trivial or negligible in nature, extent or context; or (b) that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount but less than the maximum amount; or (c) that results in costs of more than the threshold amount ($5000 or, if greater amount is prescribed by regulation, the greater amount) but less than the maximum amount being incurred in taking appropriate action to prevent or minimise the harm, and rehabilitate or restore the environment to its condition before the harm. 'Maximum amount' means the threshold amount for serious environmental harm, which is $50,000 or, if a greater amount is prescribed by regulation, the greater amount. As soon as reasonably practicable after becoming aware of the event involving the harm, the person must— (a) if the person is carrying out the primary activity during the person's			of the pollutant, the owner of the pollutant; and (d) where the person is not the person having control of the pollutant and knows or is able to ascertain readily the identity of the person having control of the pollutant, the person having control of the pollutant. Clause 91.1 Every person who belongs to a class of persons prescribed by the regulations shall, in accordance with the regulations, develop and implement plans to, (a) prevent or reduce the risk of spills of pollutants; and (b) prevent, eliminate or ameliorate any adverse effects that result or may result from spills of pollutants, including, (i) plans to notify the Ministry, other public authorities and members of the public who may be affected by a spill, and (ii) plans to ensure that appropriate equipment, material and personnel are available to respond to a spill. 2005, c. 12, s. 1 (14). The Spill Prevention and Contingency Plans Regulation 224/07 sets out what must be included in the plans in detail.

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	introduces performance-based definitions of 'hazardous' and 'offensive' and sets out specific assessment requirements for such proposals. SEPP 33 requires an Applicant for a potentially hazardous industrial development to prepare and submit a Preliminary Hazard Analysis, which a consent authority must consider as part of the overall assessment of the development application. Hazardous Industry Advisory Paper 12 sets out standard conditions of consent that the consent authority may wish to impose, including conditions around the development and implementation of emergency plans and the reporting of major incidents to the Department of Planning and Infrastructure within 24 hours.			employment or engagement by, or as the agent of, someone else (the *employer*)— i. tell the employer of the event, its nature and the circumstances in which it happened; or ii. if the employer cannot be contacted—give written notice to the administering authority of the event, its nature and the circumstances in which it happened; or (b) if paragraph (a) does not apply to the person—give written notice to the administering authority of the event, its nature and the circumstances in which it happened. If subsection(a)(i) applies, the employer must immediately give written notice to the administering authority of the event, its nature and the circumstances in which it happened.			
Relevant OH&S regulation	*Occupational Health and Safety Act 2000* (OH&S Act) and *Occupational Health and Safety Regulation 2001* (OH&S Regulation) The OH&S Act places a general duty of care on employers (section 8) to ensure the health and safety of employees and others at the workplace, so far as is reasonably practicable. Controllers of work premises, plant or substances (section 10) also have a general duty to ensure that premises are safe and without risk to health so far as is reasonably practicable. These duties extend to specified plant and dangerous goods	National model work health and safety laws will apply from January 2012 (see NOTE below table) Section 38 of the current *Occupational Health and Safety Act 2004* imposes a duty on an employer or self-employed person to notify the WorkCover Authority immediately after becoming aware that an incident has occurred	National model work health and safety laws will apply from January 2012 (see NOTE below table). The current *Occupational Health, Safety and Welfare Regulation 2010* requires certain dangerous occurrences to be notified to SafeWork SA. A notifiable dangerous	National model work health and safety laws will apply under the Work Health and Safety Act 2011 (enacted June 2011 – see NOTE below table). Clause 134 of the *Workplace Health and Safety Regulation 2008* requires notification to be given to the Chief Executive of Workplace Health and Safety	All releases of hazardous materials that result in injuries, or workers harmfully exposed, must be immediately reported to Cal/OSHA (CA Labor Code §6409.1 (b)).	Council Directive 96/82/EC Requires Member States to ensure that the operator: • takes all measures necessary to prevent major accidents and to limit their consequences for man and the environment;	The *Occupational Health and Safety Act 1990* contains the following notification duties in relation to workplace incidents: • If a person, whether a worker or not, has been critically injured or killed at the workplace, the employer must immediately notify the Ministry of

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	affecting public health and safety (sections 135 and 135A). Section 86 provides that the occupier of any place of work must give WorkCover notice of any of the following incidents: • any **serious incident** at the place of work, which is defined to mean an incident that has resulted in a person being killed, or any other incident prescribed by the regulations (e.g.: imminent risk of an escape of gas, dangerous goods or steam – see clause 344); and • any incident occurring at or in relation to the place of work that the regulations declare to be an incident that is required to be notified to WorkCover (e.g. an uncontrolled escape of gas, dangerous goods or steam – see clause 341). Notice of an incident must be given <u>as soon as practicable (but not later than 7 days)</u> after the occupier becomes aware of the incident. For serious incidents, notice must also be given <u>immediately</u> once the occupier becomes aware of the incident, and by the quickest available means. This additional notice requirement does not apply if the occupier is aware that another person has given WorkCover notice of the serious incident. There is no statutory requirement in the OH&S Act requiring WorkCover to notify the community of the incident. Clause 17 of the OH&S Regulation requires that general procedures and provisions relating to an emergency at a place of work are developed and implemented. Clause 174ZC requires a specific emergency plan to be developed for dangerous goods which exceed the threshold quantities detailed in Schedule 5 of the OH&S Regulation. This requirement is in addition to the clause 17 requirement. ***Major Hazard Facilities*** Chapter 6B of the OH&S Regulation puts in place measures aimed at preventing major accidents occurring at major hazard facilities (MHFs). The measures are based on the *National Standard for*	at a workplace under the management and control of the employer or self-employed person. Does not apply if the employer or self-employed person is the only person injured or otherwise harmed, or exposed to risk by the incident. Incidents to which the duty to notify applies includes death and serious injury, and incidents that exposes a person in the immediate vicinity to an immediate risk to the person's health or safety through, for example, the escape, spillage or leakage of any substance including dangerous goods Part 5.2 of the *Occupational Health and Safety Regulation 2007* outlines the regulatory framework for major hazard facilities (MHF), consistent with the National Standard (see NSW section for detail on MHF regulation).	occurrence means an incident or event where there is an immediate and significant risk to any person in, on or near the relevant place, or who could have been in, on or near the relevant place (whether or not a work-related injury occurs); and that is attributable to certain occurrence, including: an uncontrolled explosion, fire or escape of any gas, hazardous substance or steam; and any other unintended or uncontrolled incident or event arising from operations carried on at a workplace. Under clause 419, the person in charge of the workplace must give notice of the occurrence by contacting the Department by telephone or facsimile <u>as soon as practicable after it occurs</u>. South Australia has not enacted MHF legislation - a Bill was drafted in 2006 but did not proceed.	Queensland for workplace incidents involving serious bodily injury, work-caused illnesses, and dangerous events. 'Dangerous event' means an event caused by specified high risk plant, or an event at a workplace or relevant workplace area, if the event involves or could have involved exposure of persons to risk to their health and safety - for example, escape, spillage or leakage of any hazardous material or dangerous goods. Notice must be given in the approved form within 24 hours after the person becomes aware of the workplace incident happening; or if the workplace incident causes a death— (i) promptly (e.g. by phone or fax) after the person becomes aware of the death; and (ii) in the approved form within 24 hours after the person becomes aware of the death. The *Dangerous Goods Safety Management Act 2001* sets out the regulatory framework for major hazard facilities (MHF), consistent with the National Standard (see NSW section for detail on MHF regulation).		• is required to prove to the competent authority that all the necessary measures have been taken (Article 5). The burden of proof for the latter obligation rests on the operator. Member States must ensure: • that the operator draws up a document setting out his major-accident prevention policy; • that the policy is properly implemented (Article 7).	Labour Health & Safety Contact Centre, the joint committee (or health and safety representative) and the union, if there is one. This notice must be by telephone or other direct means. <u>Within 48 hours</u>, the employer must also notify, in writing, a director of the Ministry of Labour, giving the circumstances of the occurrence and any information that may be prescribed *[section 51(1)]*. • If an accident, explosion or fire occurs and a worker is disabled or requires medical attention, the employer must notify the joint committee (or health and safety representative) and the union, if any, <u>within four days</u> of the incident. This notice must be in writing and must contain any prescribed information *[section 52(1)]*. If required by an inspector, this notice must also be given to a director of the Ministry of Labour. • Even if no one is hurt, written notice of an accident or

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	the Control of Major Hazard Facilities declared by the National Occupational Health and Safety Commission in 2002. The national standard was drafted to ensure consistency with the following international approaches: • The International Labour Organisation's *Convention for the Prevention of Major Industrial Accidents* (International Labour Conference, 80th Session, Geneva, 2 June 1993). • The Council of the European Communities' *Draft Council Directive on the Control of Major Accident Hazards Involving Dangerous Substances* (Directive 96/82/EC). Implementation and enforcement of the standard is the responsibility of each jurisdiction. MHF's are industrial sites such as oil refineries, chemical processing plants, large LP Gas depots and large chemical warehouses that store, handle or process specific hazardous materials in quantities above threshold amounts (see Schedule 8 of the OH&S Regulation). 'Major accident' means an incident (including an emission, loss of containment, fire, explosion or release of energy or projectiles, but not including the long term, low volume release of any material) involving a Schedule 8 material occurring in the course of the operation, commissioning, shutdown or maintenance of a major hazard facility that poses a risk of serious danger or harm (whether immediate or delayed) to any person (including members of the public). There may also be instances where facilities have less than the threshold amounts but are nevertheless determined to be MHFs because of their major accident potential. Orica's Kooragang plant is classified and provisionally registered as a MHF. There are currently 42 MHF in NSW, all of which are subject to an audit program by WorkCover. WorkCover must not register a MHF (clause 175R(3)) unless it is satisfied that the operator of the MHF has: • established and maintained a safety						unexpected event that could have caused an injury at a construction site or in a mine or mining plant is required from the constructor of the project or owner of the mine or mining plant. This notice must be given to a director of the Ministry of Labour, the joint committee (or health and safety representative) and the trade union, if any, within two days and must contain any prescribed information *[section 53]*.

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	management system • prepared, consulted with the NSW Police and implemented a security plan • prepared, in consultation with the NSW Fire Brigades or the Rural Fire Service • prepared a safety report. These documents must be submitted to WorkCover. Once an emergency plan is submitted to WorkCover, it must also be provided to the Commissioner of NSWFB and, if in a rural fire district, the NSW Rural Fire Service. Additional requirements for emergency plans and safety reports are given in the document *Major Hazard Facilities – Conditions and Requirements of provisional registration and of registration*, which was published in the NSW Government Gazette on 4 July 2008. Clauses 341 and 344 require all major accidents and near misses to be reported to WorkCover, in accordance with Section 86 of the OH&S Act. **NOTE: THIS LEGISLATION WILL BE REPLACED BY THE NATIONAL WORK HEALTH AND SAFETY MODEL LEGISLATION FROM 1 JANUARY 2012. FOR DETAILS ON THE PROVISIONS, SEE NOTE BELOW TABLE.** <u>NSW Fire Brigade Recommended Emergency Plan Format and Content and *Hazardous Industry Planning Advisory Paper 1 – Emergency Planning*</u> Both note the underlying assumption that industrial emergency plans need to be site specific as well as being compatible with the NSW statutory emergency management framework (see below).						
Emergency management framework, particularly for incidents involving hazardous materials.	The *State Emergency and Rescue Management Act 1989* (SERM Act) provides the framework for a coordinated response by all agencies having roles and responsibilities during emergencies. The SERM Act provides for: • the establishment of Emergency Management Committees at State, District and Local levels to produce plans that prepare for the response to and recovery from emergencies that occur; and • the preparation of State, District and Local Disaster Plans (DISPLANs), sub-plans and	*Emergency Management Act 1986* State Emergency Response Plan The Plan identifies the organisational arrangements for managing the response to emergencies within, or with the potential to	The *Emergency Management Act 2004* identifies the South Australia Police as the coordinating agency for all emergencies. The State Coordinator is the person for the time being holding or acting in the position of Commissioner of Police.	*Disaster Management Act 2003* Queensland State Disaster Management Plan Activation of the response arrangements under the Plan may occur when there is a need to: • monitor potential threats or disaster	State of California Emergency Plan The California *Hazardous Material Incident Contingency Plan* (HMICP) is prepared pursuant to Sections 8574.16 - 8574.18 of the California Government Code. The HMICP is intended to		Province of Ontario Emergency Response Plan (PERP) - may be used for all types of emergencies other than those arising in connection with nuclear facilities. d. Directed by a Minister who has been designated by the Premier to exercise the Premier's emergency powers;

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	supporting plans to ensure a coordinated response to any emergency. 'Emergency' is defined by the SERM Act to mean an emergency due to an actual or imminent occurrence (such as fire, flood, storm, earthquake, explosion, terrorist act, accident, epidemic or warlike action) which: a) endangers, or threatens to endanger, the safety or health of persons or animals in the State, or b) destroys or damages, or threatens to destroy or damage, property in the State, being an emergency which requires a significant and co-ordinated response (property includes any part of the environment). The objective of the State Disaster Plan (DISPLAN) is to ensure the co-ordinated response by all agencies having responsibilities and functions in emergencies. The DISPLAN— • identifies combat agencies primarily responsible for responding to emergencies; • specifies the tasks to be performed by all agencies in the event of an emergency; • provides for the co-ordination of activities of other agencies in support of the combat agencies; and • specifies the responsibilities of the Minister and the State, District and Local Emergency Operations Controllers. DISPLAN devolves control and co-ordination of emergency operations and responsibility for preparedness, response, and recovery to the lowest possible level, but provides a structure to support local communities with resources from District and State level if needed. Local emergency management committees (LEMCs) are responsible for planning for emergencies that might occur within their local area; however district emergency management committees (DEMCs) are responsible for planning for emergencies involving hazardous materials. Combat Agencies are designated for particular hazards that require specific expertise and equipment. Where a Combat Agency is designated in DISPLAN the head of the Combat Agency controls the Combat Area and the NSW	affect, Victoria. There is no specific plan for hazardous materials incidents. **Lead agency** Victoria Police is the lead for the Plan. The Plan then specifies Control Agencies and Support Agencies for particular types of emergencies. For accidents or incidents involving hazardous materials, high consequence dangerous goods or dangerous good, the control agencies are Country Fire Authority, Metropolitan Fire & Emergency Services Board, and Aviation Rescue and Firefighting. Support agencies are the Environment Protection Authority, Ambulance Victoria and Worksafe. The control agency is responsible for appointing the Incident Controller. **When is it activated?** Victoria's emergency management arrangements are in effect at all times and do not require specific, formal activation. Under the Plan, the following situations would trigger the appointment of an Incident Controller by a	The coordinating agency has the following function in relation to an emergency: (a) to consult with the relevant Control Agency and take action to facilitate the exercise by the Control Agency of functions or powers in relation to the emergency; and (b) to determine whether other agencies should be notified of the emergency or called to the scene of the emergency or otherwise asked to take action in relation to the emergency; and (c) to exercise any functions assigned to the coordinating agency under this Act or the State Emergency Management Plan. For example, whilst the Control Agency is taking action to combat the hazard and protect life and property, the Coordinating Agency is coordinating the broader support functions provided by Functional Services such as logistics support, media, medical services and relief measures such as Emergency Relief Centres and temporary accommodation. The State Coordinator must, as soon as practicable after a declaration of an	operations; • support or coordinate disaster operations being conducted by a designated primary agency; • coordinate resources in support of disaster operations at local or district level; and • coordinate state-wide disaster operations activities. There are different levels of activation: Alert; Lean Forward; Stand Up; and Stand Down. State of Queensland Chemical/HazMat Plan (which is a functional plan of the overarching State plan) The Queensland Fire and Rescue Service is the responsible agency for operations management and maintenance of the Chemical/HazMat Plan.	be used in conjunction with city, county, operational area, and other state agency plans and associated standard operating procedures (including the State of California Emergency Plan). It outlines responsibilities of all agencies at the local, state and federal levels. Includes an Emergency Public Information Checklist specific to hazardous material incidents, including for low hazard/confined incidents where no general evacuation is required. Hazardous Materials Area Plans are required under the California Health and Safety Code Section 25503 for each local government area. The specific requirements for the plans are outlined in the California Code of Regulations clauses 2720-2728, and cover: emergency response procedures; pre-emergency planning; notification and coordination; training; public safety and information; supplies and equipment; and incident critique and follow-up. The *CalEMA Hazardous Materials Program* requires businesses that handle hazardous		e. A minister assigned a type of emergency requests assistance from the Minister, MCSCS; f. Directed by the Deputy Minister of Emergency Planning and Management; g. Directed by the Chief, EMO, or designate; or, h. A federal emergency is declared. The PERP is effective for planning and for operational purposes to assure the coordination of provincial emergency responses in circumstances when: a. An emergency/disaster occurs or is imminent, and requires a coordinated provincial response; b. A declared municipal emergency requires a coordinated provincial response; c. An emergency is declared by the LGIC or the Premier; The *Emergency Management and Civil Protection Act* (2006) requires every Ontario municipality and provincial ministry to implement an emergency management program. It is supported by Regulation 380/04. The Lieutenant Governor may by Order in Council designate which Ministry is responsible for a particular emergency. The Ministry of the

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	Police have overall control of the site. Where no Combat Agency is designated, control of the operation is vested in the Emergency Operations Controller. The Commissioner of Police appoints a Police Officer to be the Local Emergency Operations Controller (LEOCON) at the Local Government level and the District Emergency Operations Controller (DEOCON) at district level. For hazardous materials/emergencies occurring on land or in inland waters, NSW Fire Brigades (NSWFB) is the nominated Combat Agency. Each District and Local Emergency Management Committee is to develop and maintain its own District / Local Disaster Plan, with appropriate Supporting Plans and Sub Plans, as required by Functional Area Coordinators and Combat Agency Controllers at the appropriate level. The Displan provides that State level Supporting Plans, for each of the Functional Areas, and Sub Plans, developed in relation to specific hazards or emergencies, are to be produced as directed by the State Emergency Management Committee (SEMC). ***Hazardous Materials/Chemical, Biological Radiological Emergency Sub Plan (HAZMAT/CBR Plan)*** The HAZMAT/CBR Plan was issued in September 2005. It applies to Hazardous Material/CBR incidents (whether actual or imminent, deliberate or accidental) that require a significant and coordinated response from a number of agencies to effectively prevent, prepare, respond and recover from the emergency. The HAZMAT/CBR Plan is to be activated when the Hazardous Materials/CBR emergency involves, or has the potential to involve any of the following: a. a significant and coordinated response, which is beyond the capability available at the Local arrangements b. the activation of HEALTHPLAN to manage the casualties; or c. a significant or prolonged evacuation of an area where evacuees require support. It may be activated by any one of the following: a. the State Emergency Operations Controller	control agency/ies: • Forecast of extreme weather within the forecast period • Intelligence or information of any anticipated large scale emergency affecting life or property • Situations that involve or are likely to involve one or more of: - Multiple incident management teams (complexes of incidents) - Depletion of agency resources - A significant impact to life, property or the environment - Interstate deployment of resources - An emergency of significant complexity or consequence. Each agency must assess the factors that will determine their level of deployment and the related emergency management structure. Each agency must also adopt an Incident Management System (methodology to guide agencies undertaking their management responsibilities – designed to cater for an escalation or change in the severity of any emergency) and, where possible, ensure that they are integrated	identified major incident, a major emergency or a disaster under the Act, appoint an Assistant State Coordinator to exercise powers and functions in relation to recovery operations. The Control Agency for hazardous or dangerous materials is SA Country Fire Service or SA Metropolitan Fire Service.		materials that meet certain quantity or risk thresholds to submit Business Program Plans and Risk Management Plans to City and County Certified Unified Program Agencies (CUPAs) or Administering Agencies (AAs). The AA then uses the information to develop Hazardous Materials Area Plans to respond to a release of hazardous materials within their jurisdiction. CUPA/AA's are often fire departments, environmental health departments, or emergency services departments. A regional plan must also be developed for each of the six planning regions set up within California under federal law. Uses a Standardized Emergency Management System (SEMS) which is integrated with the National Incident Management System (NIMS).		Environment is the agency responsible for "Spills of pollutants to the natural environment, including fixed site and transportation spills" The emergency management program elements contained in the Act and regulation constitute a core emergency management program. Requirements include the designation of an emergency management coordinator, the writing of an emergency response plan and the formation of a program committee. Ministries and municipalities are required to comply with the Act and regulation. Emergency Management Ontario (EMO) monitors compliance and supports ministries and municipalities in maintaining the required program. Consistent with internationally recommended practices, Ontario has developed an Incident Management System (IMS) that provides standardized organizational structures, functions, processes and terminology for use at all levels of emergency response in Ontario. Draws on the US's National Incident Management System (NIMS).

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	or Deputy; b. the NSWFB Commissioner; c. the State Health Services Functional Area Coordinator; or d. the Environmental Services Functional Area Coordinator. On activation, the State Emergency Operations Centre Duty Officer is to be informed, who will then inform: a. State Emergency Operations Controller (SEOCON); b. the Minister for Emergency Services and other relevant Ministers; c. SEMC Members; and d. other supporting authorities. Communication/public information services are provided by the Public Information Services Functional Area Coordinator in accordance with the Public Information Services Functional Area Supporting Plan. **NSWFB and the Environment Protection Authority (EPA) Memorandum of Understanding (MoU) – see separate document.**	**Communication** The Control Agency has the responsibility to issue warnings to the potentially affected community, and to other agencies, in accordance with the Victorian Warning Protocol.					IMS is a scaleable approach based on a series of principles and concepts that include: • All incident responses can be organized using five functional areas of activity: Command, Operations, Planning, Logistics, and Finance & Administration. • IMS is applicable at all incidents and by all levels of response (for example, on-site response and Emergency Operations Centre support/responses. • The system is scalable and modular. Ontario's IMS Doctrine can be considered a toolbox for incident response. Only the tools needed for each incident are used. • The use of common terminology and criteria ensures mutual understanding among responders and facilitates the exchange of resources.

NOTE: NATIONAL WORK HEALTH AND SAFETY MODEL LEGISLATION

Due to commence in jurisdictions from 1 January 2012.

Primary duty of care: a person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of: (a) workers engaged, or caused to be engaged by the person, and (b) workers whose activities in carrying out work are influenced or directed by the person, while the workers are at work in the business or undertaking (Section 19(1)). (2) A person conducting a business or undertaking must also ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking (Section 19(2)).

Under the new laws, incidents such as fatalities, serious injuries and illnesses, and dangerous incidents must be notified to WorkCover immediately.

'Dangerous incidents' means an incident in relation to a workplace that exposes a worker or any other person to a serious risk to a person's health or safety emanating from an immediate or imminent exposure to a specified list of risks, hazards and events, including an uncontrolled escape, spillage or leakage of a substance, an uncontrolled escape of gas or steam, an uncontrolled escape of a pressurised substance, etc,

Section 41 provides that a person must not conduct a business or undertaking at a workplace or direct or allow a worker to carry out work at a workplace if: (a) the regulations require the workplace or workplaces in that class of workplace to be authorised, and (b) the workplace is not authorised in accordance with the regulations. Maximum penalty: (a) in the case of an individual—$50,000, or (b) in the case of a body corporate—$250,000. It is anticipated that this section will be used to regulate major hazard facilities (MHFs).

The draft model Work Health and Safety Regulations include a general duty to prepare an emergency plan that provides certain specified information, including notification of emergency services at the earliest opportunity (3.4.1). **These regulations have not yet been finalised. Numbering is subject to change.**

Chapter 8 of the modal Regulations outlines the regime for registering and regulating MHFs, consistent with the national standard. It includes a duty to prepare an emergency plan (8.3.7.) The operator of a registered MHF must, within the time specified in the safety case outline for the facility, prepare an emergency plan for the facility that: (a) addresses all health and safety consequences of a major incident occurring; and (b) includes all matters specified in Schedule 16 (see below).

In preparing an emergency plan, the operator must: (a) consult with the emergency services that have responsibility for the area in which the facility is located, and in relation to the off-site health and safety consequences of a major incident occurring, the local authority for the local authority area in which the facility and the surrounding area are located; and (b) have regard to the advice and recommendations provided by the persons consulted.

There is also a duty to test and implement an emergency plan (8.4.5). The operator of a licensed MHF must: (a) keep a copy of the plan at the facility; and (b) provide a copy of the plan to the emergency services with whom the plan was prepared. The operator must test the emergency plan in conjunction with the emergency services with whom the plan was prepared at least once every 3 years. The operator must, as soon as possible, implement the emergency plan if: (a) a major incident occurs in the course of the operation of the facility; or (b) an event occurs that could reasonably be expected to lead to a major incident. In implementing an emergency plan, the operator must immediately notify the emergency services with which the plan was prepared of the occurrence of the incident or event..

Clause 8.4.10 provides that as soon as practicable after a major incident occurs, the operator of the major hazard facility must take all reasonable steps to provide the local community and the local authority for the local authority area in which the facility and the surrounding area are located with information about the major incident, including:

(a) a general description of the major incident; and

(b) a description of the actions the operator has taken and proposes to take to prevent any recurrence of the major incident or the occurrence of a similar major incident; and

(c) recommended actions that the local authority and members of the local community should take to eliminate or minimise risks to health and safety.

'Major incident' means a sudden occurrence resulting from an uncontrolled: (a) escape, spillage or leakage; or (b) implosion, explosion or fire, in the course of the operation of a facility, including a major hazard facility, that exposes a worker or any other person to a serious risk to the person's health and safety emanating from an immediate or imminent exposure to the occurrence.