

Chronology of Risk Assessment Studies since the 80's.

Outline

I am going to present a brief history of Risk Assessment relevant to the Development Applications currently before council: the Bunnings proposal on Smith & Denison Streets and the Orica Subdivision across from the Bunnings site on Denison St.

I will show that developments in the area stretching back over nearly 30 years, and including the current Bunnings and Orica developments, have not taken into account proper transport risk management strategies.

The consequences of this failure, should an emergency situation arise on the Orica site or the transport routes to and from it, could have catastrophic health effects, (including loss of life), to residents, workers, sports people at Hensley Field, motorists and shoppers.

In recent months a litany of accidents and leaks have been occurring at Orica Sites including the Botany site. No amount of regulation and control can prevent accidents and, if history is any guide, these will be a constant accompaniment to industry in the area. However, implementation of proper Risk Assessment and Management Strategies can offer a high level of protection for residents, employers, employees, motorists and other users of services in the are.

Chronology of Risk Assessment Studies since the 1980's

In 1980 the Department of Planning initiated an investigation into the risk to people living in and around the Botany/Randwick industrial complex and Port Botany. Chemical Engineer, Sam Haddad managed the study.

The main objective was to examine whether public safety, property or normal community activity were at risk from the industrial operations from the industrial complex.

The report found that over **500 dwellings** were exposed to **excessive probabilities** of significant levels of **heat radiation, explosion overpressure and toxicity** which would result in serious injury to people and damage to property. A majority of these dwelling were in proximity to Denison St.

The risk areas **extended to more than 1 km** from the Orica complex.

The Department concealed this assessment and in 1985 published a sanitised version of the earlier study, the *1985 Risk Assessment Study for the Botany/Randwick Industrial Area and Port Botany*. Study included a risk reduction zone that extended up to 350 metres from the industrial complex. The planning constraint was that there should be no residential intensification in the risk reduction zone.

1986 the Department published a *Risk Assessment for the Kurnell Peninsula*. A detailed transportation study was also undertaken that examined the cumulative traffic and related safety impacts with emphasis on dangerous goods movements.

The study purported to provide an overall transport planning framework for future decision making as well as the basis for relevant risk impact assessment.

A *Sydney Regional Environmental Plan for the Kurnell Peninsular* was gazetted in NSW Parliament to ensure that the recommendations of any relevant risk assessment or transportation studies are implemented. This still remains the current planning strategy.

Sam Haddad in November 1987 stated that it was anticipated that by the end of 1988 most major industrial areas would have been examined in terms of quantified risk assessments

In February 1988, the Department completed a comprehensive update of the *1985 Risk Assessment Study for the Botany/Randwick Industrial Area*. The Study covered all 4 contributors to risk including **hazardous goods transport operations. The report identified that toxic risk from the ICI chlorine plant extended to the old Chinese market gardens in Franklin St. The Franklin St site is about 1 km from the boundary of the industrial complex.** At that time, the Department **did not clear residential development** for the site in Franklin St.

The Department **did not publish** the updated 1988 report. The sanitised 1985 Risk Assessment Study remained and the situation appeared safer than the new study revealed. The sanitised 1985 Study remained the current planning strategy for the Botany/Randwick industrial area.

None of the anticipated quantified risk assessments of most major industrial areas mentioned by Sam Haddad in November 1987 were published by the Department of Planning.

In 1993 the Department published *Risk Assessment Study Newcastle and Kooragang Island Area* which has been in the news recently over a spate of chemical leaks. The study recommended:

In accordance with the Departments risk criteria, no intensification of residential development should take place within the areas of Stockton covered by the 1 x 10⁻⁶ per year individual risk contour, until such time as it is demonstrated that the risk has been reduced to a level below the residential criterion. (page 43)

The following recommendation was also made:

A full hazardous materials transportation hazard analysis and risk assessment study should be carried out for Newcastle as a whole as the basis for developing an integrated transport risk management strategy to cover both existing and future development. The study and strategy should cover road, rail, shipping and pipelines. (Recommendations E, Transportation item 40).

No regional plan was gazetted by the Department to ensure that the recommendations of the RAS Study were implemented.

Planning NSW have advised me that no full hazardous materials transportation hazard analysis and risk assessment study have been undertaken for Newcastle as a whole.

Back to Botany

In 1994, the Major Hazards Policy Unit at the NSW Department of Planning considered the risk from the ICI Botany Chemical complex for the Davis Gelatine site at Botany. The 1 x 10⁻⁶ per year individual risk contour extended to Bunnerong Rd, well beyond the undersized risk zone in the 1985 RAS.

I'll repeat this again: NSW Planning **concealed** the results of the 1988 Risk Assessment Study and also the results of the 1994 assessment. The sanitised 1985 Risk Assessment Study remains the current planning strategy for the Botany/Randwick industrial area.

In 1996 the Department of Planning published the *Port Botany Safety Study Overview Report*. The study **excluded the transportation of dangerous goods** to and from the Port area.

In 1999, consent was granted for the Orica replacement chlorine plant. The *Orica 1998 Environmental Impact Statement*, stated:

*as part of the Botany/Randwick study the risk from the transport in the region **will be assessed**, including the risk associated with chlorine and HCl transport to and from the Orica site. (Appendix F)*

I have requested Planning NSW to make public the transport risk assessments identified in the *Orica 1998 Environmental Impact Statement*. **This is yet to occur.**

In 2001 the Department published the *Botany/Randwick Land Use Safety Study*. The outcome of the study enabled an integrated strategic land use framework to be developed. The principle element of the recommended strategy is this:

Planning strategies and controls for surrounding areas should ensure that there is no increase in the number of people exposed to risk as a result of the operations of the Botany/Randwick industrial area.

Despite the *Orica 1998 Environmental Impact Statement* stating that:

*as part of the Botany/Randwick study the risk from the transport in the region **will be assessed**,*

the 2001 Study **did not include the risk impacts of dangerous goods traffic around the industrial area** in the scope of the Study.

The 2001 established a risk region; *Future Case (2001) Consolidation Region*. The *Future Case (2001)* is the current planning standard for development in the vicinity of the Botany/Randwick industrial complex.

The 2001 Consolidation Region restricts development involving residential, active recreation, large commercial or sporting facilities.

The 2001 *Future Case (2001)* did not consider the risk impacts of dangerous goods in the vicinity of the Botany/Randwick industrial complex.

The Bunnings development is a large commercial development that has frontage to Denison St, an **identified major dangerous goods route**.

The 2001 *Future Case (2001) Consolidation Region* is an undersized risk region. This means it has not included all risks within the area. Once the risk impacts of dangerous goods traffic of all movements of hazardous materials on Denison St are integrated with the risks from fixed

facilities considered in the 2001 Study, the Bunnings development may not be permissible in terms of planning constraints in a revised *Future Case (2001)* Consolidation Region.

In 2003, Botany Council published *Botany/Randwick Land Use Safety Development Control Plan No 30*. This plan was prepared to give the 2001 Study status under the *Environmental Planning and Assessment Act 1979*.

The Orica Environmental Impact Statement of 1998 states that the number of full tankers or trucks transporting chlorine to and from the site will be **3020 per annum**. The number of full tankers carrying hydrochloric acid will be **2900 per annum**. It was anticipated that one full 13 tonne tanker will be parked on site approximately **50% of the time**.

The Planning Department published the following in the *Hazardous Industry Planning Advisory Paper No 11*:

Loss of containment from road tankers containing toxic gas that leads to formation of cloud of toxic gas have an effect distance to 1 kl or more. (Route Selection: Hazard Identification Table).

Planning strategies and controls contained in the 2001 Study and implemented under Botany Councils *Development Control Plan 30* should ensure that there is no increase in the number of people exposed to risk as a result of the operations of the Botany/Randwick industrial area.

Transportation of hazardous materials is **part** of the operations of the Botany/Randwick industrial area.

The *Orica 1998 Environmental Impact Statement* **identified that transport risk from the Orica replacement chlorine plant as being unacceptable**.

Every truck and every passenger vehicle entering leaving the proposed Bunning site or the Orica subdivision site from Denison St or from access points into Denison St **increases the number of people exposed to risk as a result of the operations of the Botany/Randwick industrial area**.

The above chronology shows that since the late 80's planning agencies have overlooked an integrated transport risk management strategy established in the 1986 Risk Assessment Study for the Kurnell Peninsular. Planning agencies have not allowed the merits of proposals to be assessed in relation to off-site risks before being determined.

The decision, on whether both of these developments should be approved or not, can only occur if the merits of the proposals in relation to off-site risk management are properly assessed.

Thank you for your attention.

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