Dept. of Planning and Infrastructure

PO Box 18

SYDNEY 2001

Attention: Andrew Hartcher – Planner

Dear Sir:

RE: OBJECTION TO DA SSD-5119, 158 MAITLAND RD, SANDGATE

Thank you for the opportunity to lodge this objection to the development application (Application Number SSD-5119) for an Ammonium Nitrate Storage and Distribution Facility (described on the Department of Planning and Infrastructure website as a "Chemical Manufacturing" project) at 158 Maitland Rd, Sandgate, involving the storage of up to 13,500 tonnes of ammonium nitrate (AN).

I believe that this development application should be rejected on the following grounds:

1. Danger of catastrophic explosion:

Large stockpiles of AN such as that proposed in this development application pose a risk of catastrophic explosion that presents an unacceptable danger to residential areas within the blast risk contour.

The DA has been classified as 'State Significant Development (SSD)' under Part 4, Division 4.1 of the EP&A Act 1979, as a consequence of AN being a Class 5 dangerous good, bringing the development within the ambit of development for the purpose of the manufacture, storage or use of dangerous goods in such quantities that constitute the development as a major hazard facility(MHF) within the meaning of Chapter 6B of the Occupational Health and Safety Regulation 2001.

The quantity of ammonium nitrate that would be stored under this DA approval would make it the largest stockpile of AN in the Newcastle local government area (in fact, it may well be the largest such stockpile in Australia or the world). I am aware of a significant number of incidents involving accidental explosions of much smaller quantities of AN around the world with disastrous affects (see, for example, the incidents listed in the following Alert from the USA Environmental Protection Agency, "Explosion Hazard from Ammonium Nitrate", 1993, http://www.epa.gov/osweroe1/docs/chem/ammonitr.pdf). An even more comprehensive list can be found at: http://en.wikipedia.org/wiki/Ammonium_nitrate_disasters#Texas_City.2C_United_States.2C_1947, which lists 24 such accidents at various locations around the world). The HSE Hazard Analysis accompanying the EIS for this DA also references 18 such accidents (Hazard Analysis, pp.12-13).

As the US EPA document states:

> Although ammonium nitrate generally is used safely and normally is stable and unlikely to explode accidentally, accidental explosions of ammonium nitrate have resulted in loss of lives and destruction of property. These accidents rarely occur, but when they do, they have high impacts.

A source from within the mining industry acknowledges that "large stockpiles of the material can be a major fire risk due to their supporting oxidation, and may also detonate" (see http://www.capitalco.com.au/Portals/0/Docs/Mining_Resources/Ammonium%20Nitrate.pdf).

Accidental detonation of stored materials at a site such as that proposed in the Sandgate DA could occur through various means, including:

- Natural events, such as lightning or earthquake.
- On-site fire in equipment, such as conveyor, auger, loaders, trucks or forklifts.
- Unexpected initiation by a mentally unstable member of the public or worker, or by terrorist action.
- Other events listed in p.67 of the HSE Hazard Analysis that forms

As far as I am aware, no accidental explosion of ammonium nitrate has yet involved quantities similar to that proposed in this DA, but, on the basis of the experience of previous incidents, a worst case explosion of 13,500tonnes of AN at the Sandgate site would clearly directly affect tens of thousands of residents in the Newcastle area, and cause hundreds if not thousands of deaths, with many more injured, and massive destruction of built structures and damage to other parts of the surrounding physical environment. I accept that the probability of such an accident is low, but (as the examples demonstrate) accidents do happen - in fact, as I write, an accidental gas leak at Orica's Kooragang plant is being reported by the local media (Orica being another large stockpiler of AN in the Newcastle area), and the small possibility of such an accident must be balanced against the catastrophic magnitude of a potential explosion should an accident occur.

However, the hazard analysis accompanying the EIS for this DA does not appear to conceive of a catastrophic explosion of this magnitude, and therefore fails to deal with balancing risk probability and consequence magnitude. For example, the Hazard Analysis states that "The likelihood of occurrence of all potential accidents identified in this hazard analysis is considered to be low. The more likely hazardous events (i.e., incidents involving ammonium nitrate on vehicles or in conveyors) have limited impact beyond the site boundaries" (HSE Hazard Analysis, p.60). That may be so for "the more likely" hazardous events, but the potential catastrophic impacts of a low probability explosion event could be felt well beyond the site boundaries.

The HSE Hazard Analysis notes HIPAP 4, which states that "Where there is an existing high risk from a hazardous installation, additional hazardous developments should not be allowed if they add significantly to that existing risk." (p.60) However, it then simplistically cites the previous operation of this particular facility to substantiate a low level of additional risk, apparently oblivious to the fact that much of this was non-compliant, and that a limited number of years of the operation of a single facility would not, in any case, represent a reasonable statistical basis for assessing risk for a quantity of material that presents such a catastrophic risk.

Transport operations associated with the facility present a further risk (albeit with more limited amounts), potentially triggered by contamination of the AN by fuels and other combustibles in the event of an accident (two accidents involving trucks carrying ammonium nitrate were reported in a

four month period in Western Australia alone just last year: see http://www.miningaustralia.com.au/news/two-injured-in-ammonium-nitrate-truck-crash).

2. Cumulative risk:

Large stockpiles of AN are already located in Newcastle (on Kooragang Island). These already present what - in my view - represent an unacceptable risk to workers and residents within the potential blast range.

The EIS accompanying the development application fails to consider the cumulative risk associated with the proposed development adding to the current risk level presented by the existing AN stockpiles (clearly, X number of individual facilities each carrying a risk of X carry a cumulative risk of (at least) XY, without even considering any "domino-effect" risks arising from interactivity between the developments themselves (e.g., one stockpile explosion triggering explosion of another).

3. Non-compliance risk:

My understanding of the background to this application (implied, but not explicitly stated, in the EIS accompanying the DA), is that the company involved was storing quantities of AN that exceeded the 2,000 tonne limit for which it was licensed (http://www.abc.net.au/news/2012-02-03/company-caught-stockpiling-ammonium-nitrate-without-licence/3809008). Presumably, they also lacked planning approval for a facility storing such a quantity of ammonium nitrate.

Given the large quantity of ammonium nitrate involved here, and the potential catastrophic impact of an explosion involving such a quantity, authorities must insist on the highest level of compliance with regulatory requirements from whatever organisation is given approval to undertake such activity. The background to this matter would appear to suggest that there may be cause for concern in this case.

These facilities should be located remote from residential areas. Government policy should focus on relocating the current large AN stockpiles around Newcastle to areas at least 10km from significant residential settlements, not expanding them in built up areas.

Thank you once again for the opportunity to make this submission.

Sincerely

John Sutton

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11 March 2013