

Crawfords Freightlines

Response to SWNSW Discussion Paper

Separation Distances for Solid Ammonium Nitrate in NSW

October 2022

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1. BACKGROUND

In October 2022, the NSW Better Regulation Division, Department of Customer Service issued a discussion paper on prescribed separation distances for solid ammonium nitrate in NSW.

Crawfords Freightliners Pty Ltd (Crawfords) operates a licensed ammonium nitrate (AN) storage facility at 158 Maitland Road, Sandgate, NSW 2304. Crawfords would be significantly impacted by the prescribed separation distances proposed in the discussion paper.

Under the proposal the Sandgate facility will be classified as a *legacy facility* that could not comply with the proposal for the prescribed separation distances in the discussion document.

This document provides Crawfords' comments and feedback on the proposals in the discussion document.

2. STORAGE FACILITY OVERVIEW

2.1 Site Location, Surrounding Land Uses and Layout

Crawfords Sandgate Facility is located at 158 Maitland Road, Sandgate, NSW 2304. The site is situated approximately 10 km to the north-west of Newcastle Central Business District and approximately 6 km west-northwest of industrial operations on Kooragang Island, NSW.

The lot includes the administration building, Sheds A, B, C and D, the security gatehouse, the weighbridge and the outdoor storage compounds adjacent to Sheds B and C. The workshop is in Shed D.

Crawfords manage and operate a rail siding at the site. The siding is used exclusively for trains servicing Crawfords Port Botany container transport operation. The site is bounded by the main Northern Railway (Newcastle-Maitland-Hunter railway line) to the west and south; the Newcastle Inner City Bypass (Shortland to Sandgate) to the west; the Pacific Highway to the east and Old Maitland Road to the north.

Land use surrounding the site is summarised below:

- North: A portion of land leased by Crawfords for general storage. Beyond this parcel of land is a site formally owned by Sibelco Australia.
- Northeast: Broadcast transmission tower.
- East: The Hunter River is situated approximately 820 m to the east between Sandgate and Kooragang Island.
- West: Immediately west of the site is the Great Northern Railway followed by Newcastle Golf Practice Centre.
- Southeast: Hunter Expressway. Sandgate Cemetery is directly adjacent approximately 100m from site.

The nearest residential areas are approximately 300m to the northeast boundary.

Crawfords' primary use of the site, is for the storage and distribution of ammonium nitrate (AN). Subsidiary materials stored on site in Sheds C and D include materials for the Tomago smelter: aluminium billets, alloy plugs, paraformaldehyde, cathode blocks, ramming paste, copper, pyroflux and refractory bricks.

As above, under the conditions of the proposal the Sandgate facility will be classified as a *legacy site* that could not comply with the proposals in the discussion document.

3. FEEDBACK ON DISCUSSION QUESTIONS

3.1 General Comments

This section responds to the discussion questions in the discussion paper. Our response has been framed in terms of the impact of prescribed AN separation distances on Crawfords' business operations, our customers, the mining and quarrying industry and the local community.

3.2 Concerns about the storage of ammonium nitrate in or around the local community

Question: *Do you have concerns about the storage of ammonium nitrate in or around your local community? If yes, what are your concerns?*

Crawfords has been operating an AN storage facility at Sandgate for more than 14 years. The site is licenced and regularly audited by SafeWork NSW Explosives Licencing Branch, Major Hazard Facility (MHF) Licencing Branch, Department of Planning and Environment (DPE) and the NSW EPA. In addition, Crawfords is regularly audited by its major customers including Glencore, Orica, Dyno, AEL, Maxam & Yarra.

Crawfords has an excellent safety record and there have been no major incidents involving the storage of AN. This was acknowledged in the NSW Civil and Administrative Tribunal (NCAT) ruling in February 2022.

The outcomes from these audits consistently confirm that Crawfords has implemented international best practices for the storage of solid AN and reduced the risk of an explosion of AN so far as is reasonably practicable (SFARP).

Crawfords conducts regular consultation with the community as part of the MHF licensing requirements and have not received any concerns about the storage of AN at the Sandgate Facility.

3.3 Measures to manage the risks associated with the storage of ammonium nitrate

Question: *Does the proposal incorporate appropriate measures to manage the risks associated with the storage of ammonium nitrate?*

The proposal does not incorporate appropriate measures to manage the risks associated with the storage of AN. The proposal only focuses on the consequences of an explosion in an AN store. There is no mention of Australian and international best practice risk reduction measures which have been demonstrated to minimise the risk of an explosion.

The discussion paper cites three recent devastating AN explosion events:

- West Texas USA (2013)
- Angella Creek Qld 2014
- Tianjian China (2015)
- Beirut Lebanon (2020)

The Angella Creek incident is a transport accident and as we argue below, as a consequence of the proposal, there will be more AN trucks on the road and longer journeys. This will increase the risk of an AN transport incident. International research has identified that AN road transport has a much higher risk profile than a well-managed AN store of the type operated by Crawfords at Sandgate.

The incidents at West Texas, Tianjian and Beirut all involved storage practices that are illegal in Australia and would have been identified by Australian regulators and the sites shut down promptly. These incidents are case studies of how not to manage an AN store, and are examples of the worst practices in the storage of AN.

Crawfords supports the development of guidelines for AN separation distances in NSW. This will provide greater certainty, consistency, and clarity to the industry. However, Crawfords does not support prescribing separation distances.

Crawfords supports the approach recommended in *SAFEX Good Practice Guide for Technical Grade Ammonium Nitrate GPG-02* and the Australian Explosives Industry Safety Group (AEISG) Code of Practice, *Storage and Handling of Solid Ammonium Nitrate* which provides the option to take a quantitative risk assessment (QRA) approach if default separation distances cannot be met. The approach recommended by the AEISG uses the latest science and research in the determination of separation distances and consequence analysis.

3.4 Safety of ammonium nitrate storage facilities near residential and commercial areas

Question: *How can ammonium nitrate storage facilities located near residential and commercial areas be made safer?*

Crawfords is of the opinion that its Sandgate AN storage facility which is located near residential and commercial areas is safe and that the risk of an explosion of AN is negligible. Crawfords holds a MHF licence issued by SafeWork NSW which deems that the risk to surrounding areas has been reduced as far as is reasonably practicable and meets the requirements of NSW HIPAP 4.

Crawfords continues to implement proven international best practices to ensure the safety of its storage. Crawfords continually strives to improve safety at Sandgate by:

- Keeping abreast of new developments in best practice management of AN storage to ensure that new management methods and technology is implemented on site
- Engaging with regulators and customers to ensure audit actions and recommendations are implemented
- Continually improving its management practices
- Engaging with industry experts

3.5 Impacts on industry and the community from the proposal

Question: *What will be the impacts on industry and the community if the NSW Government's proposal is adopted?*

As a legacy site Crawfords Sandgate could not comply with the proposed prescribed separation distances (Refer Tables 1 & 3). Currently Crawfords is licenced to store AN in 500t stacks to a total capacity of 9,000 tonnes.

The impact of the prescribed stack separation distances in Table 1 are dependent on AN density which will significantly impact on the total capacity of the stores.

Likewise, the prescribed separation distances to protected works as defined in Table 3 are untenable.

Even a reduction to 10 tonne stacks would not comply, given the sites proximity to the Newcastle bypass road and Northern Rail Line and would reduce to total licenced storage quantities on site from 9,000t to 320t (160t per shed).

This site would no longer be financially viable for AN storage and would be unable meet Industry requirements for adequate storage and timely supply of AN. Ultimately, Crawfords' Sandgate operation would close with the resultant impact of financially destroying the business itself.

Crawfords has previously investigated options for AN storage sites in the upper Hunter Valley. Alternative options would need to be located close to major transport routes, away from population

centres, farmhouses and industry and have access to sufficient water supplies for firefighting. Crawfords has been unable to locate a suitable area of land that meets these needs.

In considering the proposal, Crawfords also consulted several major real estate agents in the Hunter Valley to investigate the availability of an appropriately sized site (approximately between 1200 to 1500 acres) with the resounding response that no such site would be available, even considering west to Merriwa and beyond.

The Sandgate Facility is ideally placed as it is strategically located close to the Port of Newcastle, has immediate access to emergency services and with all public amenities available (water, power etc.) and a good staffing/labour base.

It also needs to be highlighted that the fire-fighting sprinkler system in the Sandgate stores is piped directly from the main northern pipeline immediately outside the Eastern boundary.

In comparison, no other, more remote, site would achieve the sheer capacity, volume and pressure of water available to our firefighting system should an emergency ever eventuate. This feature ensures a constant availability of reliable and unencumbered water supply for an indefinite period such that the Sandgate sprinkler system design actually includes a necessary pressure reduction from that available at the pipeline.

Relating to the transport task, it requires 180 B-Double truckloads of AN to unload a ship in the port. The 14km roundtrip from port to Sandgate and back to port takes approximately 60 minutes. This involves a shorter road trip and fewer trucks to load and unload than a more remote store.

Should the site be forced to close, and an alternative (albeit extremely unlikely) storage facility be established in the Upper Hunter Valley, the minimum time from port to storage would be 2 hours each way (4 hour round trip plus unloading). This would increase the number of trucks on the road to ensure that the ship is unloaded in the shortest time. These trucks would also need to pass through populated centres in the Hunter Valley and travel longer distances on the road.

Research shows that the risk of an explosion of AN from a transport incident is much higher than in a well-managed AN store such as Sandgate. A more remote site would increase costs to Crawfords' customers through higher freight costs and longer berthing times and stevedoring for ships in the port.

The impact of longer transit cycles would also greatly increase the risk / impact of driver fatigue, in that there would be longer in-transit times between loading and unloading points (possibly greater than 2 hours behind the wheel each way), especially during the critical fatigue period midnight to 6am, as opposed to current practice where the driver only spends approximately 15 to 25 minutes maximum behind the wheel at a time on each leg between port and site and return mixed in with out-of-cab activities in between.

The Sandgate facility is well located to serve mining and quarrying customers in the shortest time possible, particularly in time of high demand as is currently being experienced. Strategically a more remote location would require additional road trips and backtracking along routes travelled by trucks delivering AN to the storage. Once again, this would increase the freight and storage costs for Crawfords' customers.

Additionally, there is a noted shortage of drivers across the whole road transport industry. Increased transit times ($\geq 400\%$) would require Crawfords to exponentially increase our driving pool which is unrealistic in the current market.

Fatigue issues and the necessity for additional drivers notwithstanding, increased cycle times would require an exponential increase in fleet size, resultant capital expenditure & increase in number of truck/trailer sets on the roads in the Hunter Valley.

3.6 Appropriate transition period for existing sites to comply

Question: *What is an appropriate transition period to provide to existing sites which may have difficulty complying with prescriptive separation distances? What other strategies should be considered to enable existing sites to comply with prescriptive separation distances?*

As discussed above, the suggestion of a transition period becomes irrelevant as the Sandgate storage facility would be unable to comply with the prescriptive separation distances and remain commercially viable.

The AN storage operation would close, resulting in cessation of Sandgate operations and financially destroying the business

3.7 Barriers relocating or moving stores within sites

Question: *What barriers are there for existing facilities moving or relocating ammonium nitrate stores within sites, to comply with prescriptive separation distances?*

There are no options to relocate AN storage on the Sandgate site to comply with the prescriptive separation distances.

The only possible & unlikely option would be for Crawfords to relocate to a new site in a more remote (unavailable) location (Refer 3.5).

3.8 Unintended consequences for industry and/or communities

Question: *Are there any unintended consequences associated with the NSW Government's proposal, for industry and/or communities located within the vicinity of an ammonium nitrate storage facility?*

The consequence of the proposal for industry and communities within the vicinity of the Sandgate facility would at a minimum be the closure of the storage operation, the loss of up to 150 onsite jobs and loss of work opportunities for contractors, providers and trades people that service the site, and the likely financial destruction of the business itself.

For other sites in NSW, the prescriptive separation distances may impose larger buffer zones which could prevent economic development in the vicinity of the storage facility

3.9 Achieving the desired safety outcome

Question: *Do you think the prescriptive separation distances will achieve the desired safety outcome?*

As discussed in Section 3.3, Crawfords supports the development of guidelines for AN separation distances in NSW. This will provide greater certainty, consistency, and clarity to the industry.

However, Crawfords does not support prescribing separation distances as the best way to achieve the desired safety outcome.

This consequence-based approach does not represent international best practice. Crawfords recommends a risk-based approach should be applied as recommended by SAFEX International and AEISG. Risk-based approaches are widely used across other hazardous industries like chemicals, petrochemicals and aviation.

A focus on a consequence-based approach does not give recognition to the excellent safety record of Crawfords and other companies operating AN storages in NSW. This approach penalises NSW operators because of poor management and regulatory practices in other parts of the world.

3.10 Other Costs

Question: *Are there other costs that the proposal should consider, such as socio-economic costs?*

The socio-economic costs that need to be considered in relocating AN storage to more remote locations include loss of onsite jobs and services when sites need to close. Other costs include changes to land zoning that may be required for new sites and skill shortages and lack of services in more remote areas.

3.11 Measures to offset the economic impact

Question: *What measures can be taken to offset the potential economic impact of some within the industry?*

The economic impact of re-locating its AN storage facility for Crawfords would be crippling. The impact would be similar for other legacy sites in NSW. At the very least the NSW Government would need to provide a significantly large financial support program to support legacy operators like Crawfords to relocate.

In any case, if any such opportunity existed, the facility would still need to be located strategically near the port of Newcastle, and there is no other port in NSW outside of Sydney which can handle the shipments.

For obvious reasons Sydney cannot be considered as an alternative, leaving Newcastle as the only NSW port which can efficiently distribute AN to the NSW client base.

An alternative option would be for the NSW to establish a reserve for AN storage similar to arrangements in Qld and WA. The cost of establishing the reserve including obtaining planning approvals and licencing, buying and buying-back land would rest with the NSW Government, lifting this burden from the operators.

There would still need to be an assistance package to help operators relocate.

3.12 Further Comments

Question: *Do you have any further comments regarding the NSW Government's proposal and the storage of ammonium nitrate in NSW?*

This proposal will be highly disruptive and impose large additional transport, legal and capital costs on the NSW resources sector.

Considering the critical importance of AN to the NSW mining and quarrying industry, this proposal would increase costs in the industry and have a massive negative impact on the competitiveness of this sector, including impact on the provision of materials vital to infrastructure such as road base gravels, finished products and concrete.

Crawfords supports NSW Government efforts to develop guidelines that provide greater clarity and certainty to the sector. However, we consider that prescriptive separation distances are a blunt instrument for achieving the desired safety outcomes.

Crawfords recommends that the further consultation occurs with the resources sector and key organisations like AEISG to ensure that the regulatory framework represents international best practice.

In closing, Crawfords also wish to draw attention to the principle that the basis of risk assessment in NSW is that industries and activities are assessed on actual risk rather than perceived or exaggerated risk.

The risk of AN storage facilities in statistical terms is low so there is no justification to include it as a special risk category whose activities are likely to spread beyond the conventionally calculated risk contours.

It is important that the regulator looks at the holistic risks including road transport and does not unjustifiably concentrate on storage, actually increasing risk by introducing more risky road transport. It is the regulator's absolute responsibility to look at the whole of society's risk not an exaggerated examination of a small segment of risk