

HUNTER VALLEY OPERATIONS

9 December 2022

Mr Michael Cassel
Secretary
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attn: Joe Fittell, Team Leader, Energy and Resource Assessments

Dear Mr Fittell

Hunter Valley Operations MP 06_0261 Modification 8 AN Storage Response to Submissions

Introduction

HV Operations is seeking a minor modification to MP 06_0261 for the HVO South Coal Project (HVO South) (Modification) near Singleton in NSW. The proposed Modification is sought pursuant to section 4.55(1A) of the Environmental Planning and Assessment Act 1979 (EP&A Act) and involves increasing the permitted storage volume of Ammonium Nitrate (AN) on-site and the construction of a specific AN storage facility away from sensitive receivers.

Hunter Valley Operations (HVO) South submitted the Modification 8 AN Storage application in October 2022. The exhibition period ended on 7th November 2022.

This Response to Submissions report has been prepared having regard to the *State Significant Development Guidelines – preparing a submissions report Appendix C*.

Analysis of Submissions

A total of two objecting submissions were received from the public during the exhibition period. The Submissions Register is provided in Appendix A.

Issues raised in the two submissions have been categorised in the following way:

Justification and evaluation of the project as a whole:

- Concern regarding the purpose of the increase in AN storage with no production change.

Economic, environmental and social impacts of the project.

- Pollution risks associated with storage of AN
- Increase in other chemicals associated with the ANE manufacture.
- Explosive risks and international incidents associated with AN storage.

Procedural matters

- Insufficient time allowed for community consultation

Actions taken since Exhibition

HVO communicated the exhibition of the Modification Report to its Community Consultative Committee and the Hunter Valley Gliding Club. No additional actions or edits to the proposed Modification are planned.

Response to Submissions

Concern regarding the purpose of the increase in AN storage with no production change.

The justification for the requested increase of AN storage from up to 100t to up to a combined total of 7,446t is outlined in the Modification Report. Current shipping and transportation issues means, at times, HVO doesn't have enough supply of AN onsite to efficiently produce Ammonium Nitrate Emulsion. The Modification would mitigate operational delays by allowing for on-site storage of additional AN, ensuring the supply of sufficient materials.

There is no change proposed to the manufacturing of ANE. The volumes of AN storage proposed are to maintain sufficient ANE supply for existing mining operations at approved production rates. ANE is used for blasting at HVO and this has not changed with the proposed Modification.

Pollution risks associated with storage of AN.

The proposed storage area has been designed with consideration of water management controls. Each open-air stack of covered AN bags will be sited on ground that drains to HVO's mine water system, maintaining all water on site. Each stack will be raised and wrapped by an impervious tarpaulin to allow surface water to drain away between stacks and prevent water ingress.

Increase in other chemicals associated with the ANE manufacture.

The other chemicals outlined in the Modification Report for storage are currently used and stored at HVO under existing approvals. Potential environmental impacts arising from the storage of precursor chemicals and the manufacture of ANE have been assessed in this Modification (Section 5) and in the approved Modification 6 report. Existing storage and handling areas have adequate capacity to store the additional chemicals while providing containment and segregation requirements.

Explosive risk and international incidents associated with AN storage.

A Process and Risk Report was prepared for the Modification and was provided with the report as Appendix A. The Process and Risk Report details the process and materials associated with the proposed AN storage compound and identifies the controls required to mitigate potential hazards of AN storage. Appropriate safety control systems and procedures have been incorporated into the storage compound design in accordance with relevant Australian Standards and Codes of Practice. These standards and codes incorporate learnings from global incidents to prevent recurrences.

The controls also consider the risk of bushfire. In addition to firebreaks, the Process and Risk Report specifies the installation of fire hose reels and use of water tankers as required.

HVO maintains fire-fighting equipment and resources onsite to respond to bushfires. This is addressed in the HVO Bushfire Management Plan.

Insufficient time allowed for community consultation.

The Modification Report was on exhibition for two weeks. Prior to exhibition, consultation occurred with the HVO Community Consultative Committee (CCC) and the Hunter Valley Gliding Club, which is the nearest privately owned land to the proposed development. A project factsheet was also provided to Singleton Council and NSW EPA.

Response to Agency Advice

Agency advice was received from the NSW Environmental Protection Authority (EPA) and NSW Resources Regulator.

NSW Resources Regulator

The Resources Regulator stated that they had reviewed the request and had no specific comments at this time.

HVO Response

No response required.

NSW Environment Protection Authority (EPA)

To prevent contamination of soil, surface water and groundwater from the storage and handling of AN, the EPA stated that undercover storage reduces the potential for rain to interact with the AN, and storage under tarps increases the likelihood of spills. In addition, the EPA recommended the following conditions:

1. All Ammonium Nitrate must be stored on an impervious hardstand.
2. All Ammonium Nitrate must be stored under a roofed area.
3. Any runoff from the Ammonium Nitrate storage area must be captured and stored in an appropriately sized containment dam.
4. All storage, handling and manufacturing areas require appropriate containment measures to be installed so that any spills or leakages of Ammonia Nitrate are prevented from being released into the surrounding soil, groundwater, or surface waters.

Further, The EPA also recommends the proponent complies with the requirement of Australian Standard AS 4326 - *the storage and handling of oxidising agents*.

HVO Response

The storage facility has been designed to mitigate potential for contamination to soil, surface and ground water. This can be achieved without the need for a roofed enclosure.

The proposed stack is to be located within a previously disturbed area of the mine and within the mine water management system. As outlined in Table 5.2 of the Modification Report, drainage from the storage area would report to a mine water dam that can accept the run-off generated by a 1 in 10-year, 24 hour period storm event without overflowing. Water levels within the dams across HVO are managed such that water levels are drawn down and sufficient freeboard is maintained when storms are predicted.

The proposed AN storage area will be shaped to manage drainage and restrict ingress into the covered AN bags. The earth pads under the AN bags will be raised and will have an impervious liner on the compacted hard stand directly under the bag. The sides of the liner are pulled up over the first layer of bags and secured by the placement of the second layer of bags. The top liner is then placed over the entire stack to shed water. Figure 1 provides a visual understanding of the storage process.



Figure 1. Illustration of the liners proposed to encompass the bagged AN.

Each bag of AN is doubled lined and exposure of the AN will only occur within the ANE manufacturing area. The Process and Risk Report provided as Appendix C in the Modification Report states that bagged AN to be used in production of ANE will be removed from the storage stack by forklift and transported to the ANE plant. Following removal of the bags, the tarpaulins will be put back in place. This procedure will minimise the potential for spills to occur within the earthen storage facility. The manufacturing area is under a roof and has a concrete floor to allow for the management of any spilled material.

A hardstand and roof are not proposed for the AN storage due to safety concerns. Institute of Makers of Explosives Safety Analysis for Risk (IMESA FR) is a quantitative risk assessment (QRA) tool used to calculate risk to personnel from commercial explosives facilities and operations. Modelling of open air AN storages (using the IMESA FR model) demonstrates the lowest risk storage scenario is through the use of open-air earthen storage as it reduces the risk of shrapnel and confinement of the product in the unlikely event of an explosion.

The use of open-air stacks is a permissible activity as per AS 4326 Clause 4.3 (a) Open air enclosures and is currently the primary storage type used at the QLD Government explosive reserve located at Bajool. At that site, there is >100,000t of AN stored using this practice. AS 4326 outlines the requirements for storage, handling, operational safety, emergency planning and fire protection for all Division 5.1 dangerous goods, and provides specific storage requirements for AN. The proposed AN compound has been designed in accordance with Australian Standard AS 4326 as stated in Section 2 and Section 5 of the Modification Report.

Updated Evaluation of Project Merits

The Proposed Modification seeks to gain approval for additional AN storage within the existing approved HVO South mine disturbance area. The effect of this would improve the efficiency and reliability of operations at HVO South, by ensuring a readily available supply of AN. The Modification Report assessed potential environmental impacts from the

construction and operation of the Proposed Modification and found those potential impacts to be minimal.

Following consideration of the submissions received during the public exhibition of the Modification Report, a detailed Submissions Report to address the issues raised in agency and community submissions has been prepared. The overall outcomes of this response to submissions process have not changed the overall assessment of the merits of the Proposed Modification.

References

- Institute of Makers of Explosives Safety Analysis for Risk (IMESAFR)
- Australian Standards (AS) 4326-2008 – Oxidising Agents Storage & Handling
- HVO Bushfire Management Plan, V4, 26/10/2022
- Good Practice Guide: Storage of Solid Technical Grade Ammonium Nitrate (March 2011). SAFEX International. SAFEX Good Explosive Practice Series, GPG 02 rev.1.

Should you wish to discuss this response or require any further information regarding this matter, I may be contacted on 0477 335 409.

Yours sincerely



Michael Lloyd
Environment & Community Coordinator
Hunter Valley Operations

Appendix A Submissions Register and Agency Advice

The register of Submissions is outlined in Table 1 below. Two objections were received from the public. Advice was also provided by two Government agencies.

Table1: Register of Submissions and Agency Advice

Group	Name	View
Public	Anonymous 1	Objects
	Anonymous 2	Objects
Government Agencies	NSW Resources Regulator	Advice
	NSW Environment Protection Authority	Advice

Appendix B Updated Mitigation Measures

The following mitigation measures are consistent with those proposed in the original submission. With the implementation of these measures, it is considered that the environmental risk of the proposal is low and thus there is no need to update the proposed mitigation strategies based on the arguments presented following the exhibition period.

In line with international explosives industry best practices the following critical controls will be implemented at the AN stack storage facility:

- The proposed storage facility will be within a fenced compound in the open air covered with tarpaulins in compliance with Clause 4.3(a) "Unroofed enclosure covered with fit for purpose covers", AS4326.
- No combustible materials will be stored in the AN stack compound. Trucks and forklifts will be parked outside the compound when not involved in loading or offloading procedures.
- Stacks will be separated by a distance of 9m as recommended in the SAFEX Good Practice Guide for Technical Grade AN GPG-02. This is a larger separation than required by AS4326 and is designed to prevent explosive knock-on effects between stacks.
- Forklifts will be compliant with AS4326 to prevent possibility of a forklift fire causing uncontrolled heating of AN during loading and unloading operations in the storage compound. Forklifts will have pre-start and preventative maintenance procedures in place.
- AN deliveries will be undertaken by accredited dangerous goods (DG) contractors.
- Temperature checking of delivery vehicle tyres and brakes will be conducted before the vehicle can enter the storage compound.
- A firebreak will be maintained around the compound.
- An Emergency Response Plan is in place which is designed to mitigate the consequence of a major incident occurring on the ANE manufacturing facility site. The AN storage facility will be included in this plan. The Emergency Response Plan has a tested credible evacuation plan that will ensure that there will be a high likelihood that within 45 minutes of the evacuation being initiated there is no person within a Protected Works Class B (PWB) distance from the plant. The Emergency Response Plan, which includes the ANE plant and the AN storage compound, is fully integrated with HVO mine site emergency procedures and systems including alarms and emergency communications.
- Site procedures require a high standard of housekeeping to ensure that incompatible materials are separated and stored appropriately. Housekeeping inspections in the AN storage compound will be conducted weekly and ensure there is no build-up of waste.
- A set of operational instructions for the storage compound will be established. A training needs analysis will be developed for each operator and training in the required operational procedures conducted.
- The AN stack storage compound will be fenced with locked gates to ensure the security of Security Sensitive Ammonium Nitrate (SSAN) stored on the site. Suitable security monitoring systems will be installed. Site security will be integrated with the HVO mine security and communications system.

- The AN storage compound will be equipped with fire-fighting capacity. For large, uncontrolled fires, the area will be evacuated according to the Emergency Response Plan.
- AN bulk bags are of robust construction with an inner impervious bag and an outer woven bag for handling. The AN stacks will sit on an impervious tarpaulin that wraps up the side of the bag and this will assist in catching any spilled AN. Any spilled AN will be cleaned up immediately and contaminated material placed in designated containers for disposal under approved waste management procedures.
- Bagged AN to be used in production of ANE will be removed from the storage stack by forklift and transported to the ANE plant prior to opening.
- The AN Storage Compound will be managed through existing on-site surface water management practices.
- The AN Storage Compound will be located within the same catchment area as the ANE manufacturing plant and drains to the nearby mine water dam. Each stack will be raised and wrapped by an impervious tarpaulin to allow surface water to drain away between stacks and prevent water ingress.
- Storm water would be managed around the storage location via fit for purpose drains.
- The mine water dam is capable of at least accepting the run-off generated by any 1 in 10-year, 24-hour period storm event without overflowing.