



Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6450/2020/1
Applicant	Co-operative Bulk Handling Limited
File Number	DER2020/000458
Premises	Co-operative Bulk Handling Limited Lot 108 Rockingham Beach Road KWINANA BEACH WA 6167 Legal description- Part of Lot 108 on Deposited Plan 400167 Certificate of Title Volume 2953 Folio 177 As defined by the premises maps attached to the issued works approval
Date of Report	26/08/2021
Decision	Works approval granted

Chris Malley

Manager, Process Industries

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6450/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of premises

On 23 September 2020, Co-operative Bulk Handling Ltd (CBH / the applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The application is to construct and operate a liquid urea ammonium nitrate (UAN) fertiliser and granular fertiliser blending and storage facility at the premises located about 3.6 km northeast of the town of Rockingham within the Rockingham Industrial Zone.

The works will cause the premises to become prescribed under category 75: *chemical blending or mixing not causing discharge* and assessed production capacity under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations). The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6450/2020/1.

2.3 Proposal details

CBH Ltd proposes to expand their fertiliser business by constructing a new facility for the import and storage of liquid UAN and granular fertiliser products in Kwinana, adjacent to the CBH Grain Facility.

2.3.1 Liquid UAN infrastructure and processes

Offshore infrastructure and processes

Liquid UAN will be transferred from ships at the existing Kwinana Grain Terminal (KGT) jetty to the onshore storage tanks via a steel pipeline that will be constructed in-situ and routed on the jetty to the ship unloading berth.

The offshore component of the proposal is outside the scope of category 75 and not prescribed in Schedule 1 of the EP Regulations. Offshore components are not further considered in this assessment however, have been considered by the Environmental Protection Authority (EPA) in its assessment under Part IV of the EP Act (see section 3.1).

Onshore infrastructure and processes

To facilitate the storage of liquid UAN, three storage tanks (16,000 tonnes capacity each) surrounded by a 2.5 m high concrete bund wall will be constructed.

Prior to distribution to customers, the liquid UAN will be loaded into road tankers at a dedicated loading station adjacent to the UAN storage tanks (Figure 1). The loading stations will include a weather protection awning and be bunded to contain spills or leaks of UAN. Metering and instrumentation will measure and monitor the UAN flow into the road tankers to track and

prevent overfilling. An evaporation pond has been designed to contain all potentially contaminated stormwater (see section 2.3.3).

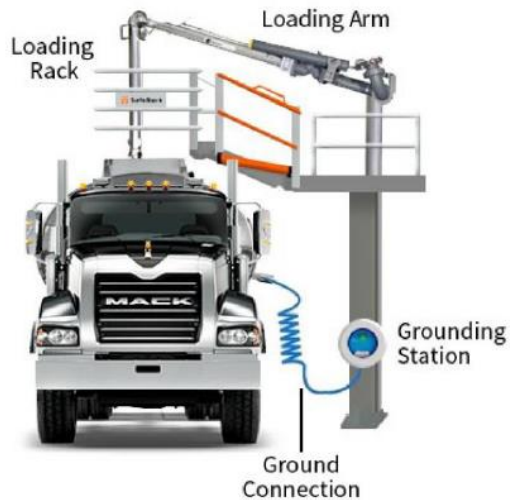


Figure 1: UAN truck loading arrangement

2.3.2 Granular fertiliser infrastructure and processes

Numerous types of fertiliser products will be stored at the facility, all of which will be received at the Kwinana Bulk Jetty (KBJ) and loaded onto covered semi-trailers. These trailers will arrive at the CBH facility via Kwinana Beach Road and enter the 240 m long x 85 m wide fertiliser storage shed, which will have doors to the north and south, only opening to accommodate entry and exit of trucks. The storage shed will be divided into six main fixed storage cells and further subdivided into smaller storage cells constructed from concrete, to accommodate the smaller quantity fertiliser products. The floor and lower containment walls will be constructed from concrete and the building structure above will be constructed from steel and clad with stainless steel and translucent sheeting.

Loaded trailers will unload the fertiliser directly into the assigned storage cell, and then be blown down using a compressed air hose to remove any loose fertiliser before exiting the storage shed. The trucks will then pass through a wheel wash area to remove any remaining fertiliser before exiting the site. Once the fertiliser has been unloaded in the storage cell, a front-end loader will push it onto the stockpile.

The storage shed will be equipped with a fertiliser blending plant, which will be loaded with the various fertiliser products to create the required end-product to be loaded for distribution (Figure 2). The blending plant will be integrated with an overhead conveyor system and truck loading tipper equipment capable of loading the blended fertiliser directly into the trucks. The blending plant includes hoppers that feed onto a transfer conveyor, blender/mixer, bucket elevator, overhead conveyor, and a truck loading tripper. All travel paths of the fertiliser within the blending plant are fully enclosed to prevent dust emissions.

The weight of fertiliser loads will be confirmed using a weighbridge; the trucks will then pass through the washdown bay before exiting the site.

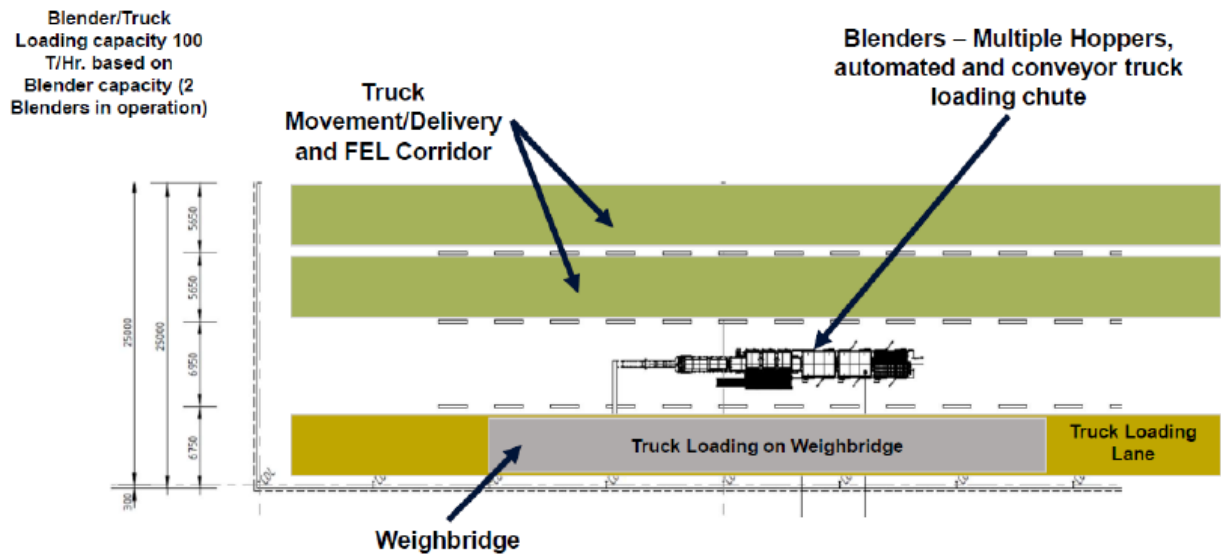


Figure 2: Granular fertiliser unloading, blending, and loading arrangement

Applicant's Acoustic Assessment Report

Based on the application documents, most of the major noise sources, such as the front-end loaders and fertiliser blending units, will be operated within a purpose built shed. An Acoustic Assessment report (Herring Storer Acoustics (HSA), 2020) was provided with the application, which concluded that the proposed facility will be able to comply with the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations).

The Acoustic Assessment Report was reviewed, and the Delegated Officer accepted the modelling as a representative prediction of worst-case noise emission levels during the operational phase. HSA's modelled results predict that under worst-case conditions, night-time noise emissions from the proposed operation will be 20 and 22 dB(A) (L_{A10}) at the two closest noise sensitive receptors, respectively. It is noted these predicted levels are lower than the assigned noise levels in addition to existing background noise levels at the nearest residential receptors. It is considered unlikely the proposed activities at the premises will significantly contribute to cumulative noise emissions from the Kwinana Industrial Area, and unlikely to be discernible from road traffic noise from the major roads in the area at a distance.

2.3.3 Water management

The applicant submitted a water management strategy with the application (360 Environmental 2020a), which details how all water will be managed onsite, including wastewater, stormwater and groundwater.

Stormwater

The stormwater management strategy focuses on managing clean stormwater and stormwater potentially containing nutrients (contaminated stormwater) separately. Stormwater runoff from internal roads where trucks deliver the liquid UAN (approximately 600 m²) and the truck washdown area (approximately 1000 m²) will be directed to an evaporation pond.

Uncontaminated stormwater runoff collected from other internal roads, roofs and carpark areas will be collected and infiltrated using downpipes (from roofs), underground cells, drainage swales and soakwells.

The surface water runoff within the area of the liquid UAN storage tanks, which has a concrete wall around its perimeter, will be contained within itself until it is pumped out only when suitable.

Therefore, this stormwater does not affect the pond and swales sizing.

The general intent of the stormwater management strategy is to:

- separate uncontaminated stormwater runoff from potentially contaminated runoff;
- collect and contain all the potentially contaminated runoff using a lined evaporation pond;
- collect and infiltrate the uncontaminated runoff from the first 15 mm event using underground cells, infiltration swales and soakwells; and
- collect and infiltrate the uncontaminated runoff in events greater than the first 15 mm up to 1% AEP (Annual Exceedance Probability) event in underground cells, infiltration swales and soakwells.

Evaporation Pond

The evaporation pond has a designed holding capacity of 3,000 m³ and will collect the stormwater runoff from the potentially contaminated road areas and water from the washdown area for retention and evaporation. Pipes and inlets connected to the areas will be sized for a 1% AEP event, and these areas will be earthworked and bunded to be self-contained, so that no runoff will enter adjacent clean road areas.

The potentially contaminated roads area is approximately 1,600 m² and it is assumed there will be about 300 m³/month of washdown water, based on 15 m³/day washdown and 20 working days per month. The water balance provided in the application indicates that the proposed evaporation pond has sufficient capacity to cater for a 5% AEP 24 hour event while maintaining a 300 mm freeboard in a 90th percentile wet year. Water may need to be trucked offsite in the wettest months (August – September) to maintain the required freeboard and storage capacity. The pond will be lined with a minimum 2 mm thick High Density Polyethylene (HDPE) liner which will be welded in-situ.

2.3.4 Other infrastructure and processes assessed in this report

Additional supporting infrastructure will be constructed, including a swale designed to manage all clean site runoff from the roof and hardstand; and a hardstand area.

The facility operating times are structured to ensure in-loading and out-loading times meet the seasonal requirements of the customers. These operational timings extend to 24x7 continuous operation at peak (seasonal) times, and 10 hour daily operations at other times.

Average traffic movement within the facility is four truckloads per hour; typically, 96 truck movements are expected daily.

2.3.5 Exclusions to the assessment

The following matters are out of the scope of this assessment and have not been subject to detailed risk assessment:

- Construction of offshore infrastructure;
- storage, transfer, loading, etc. of liquid UAN (assessed under Part IV of the EP Act);
- weighbridges to weigh trucks being loaded with blended fertiliser product and enable weighing of full or empty trucks accessing the facility;
- office amenities including a building suitable to up to ten persons and Aerobic Treatment Unit to treat sewage prior to disposal via irrigation (up to 1,800 kL per day) to landscaped areas;
- a 20 kL diesel storage tank located in the facility adjacent to the end of the warehouse building (regulated under Dangerous Goods Regulations); and
- access roads.



Figure 3: Proposed site location (offshore and onshore components)

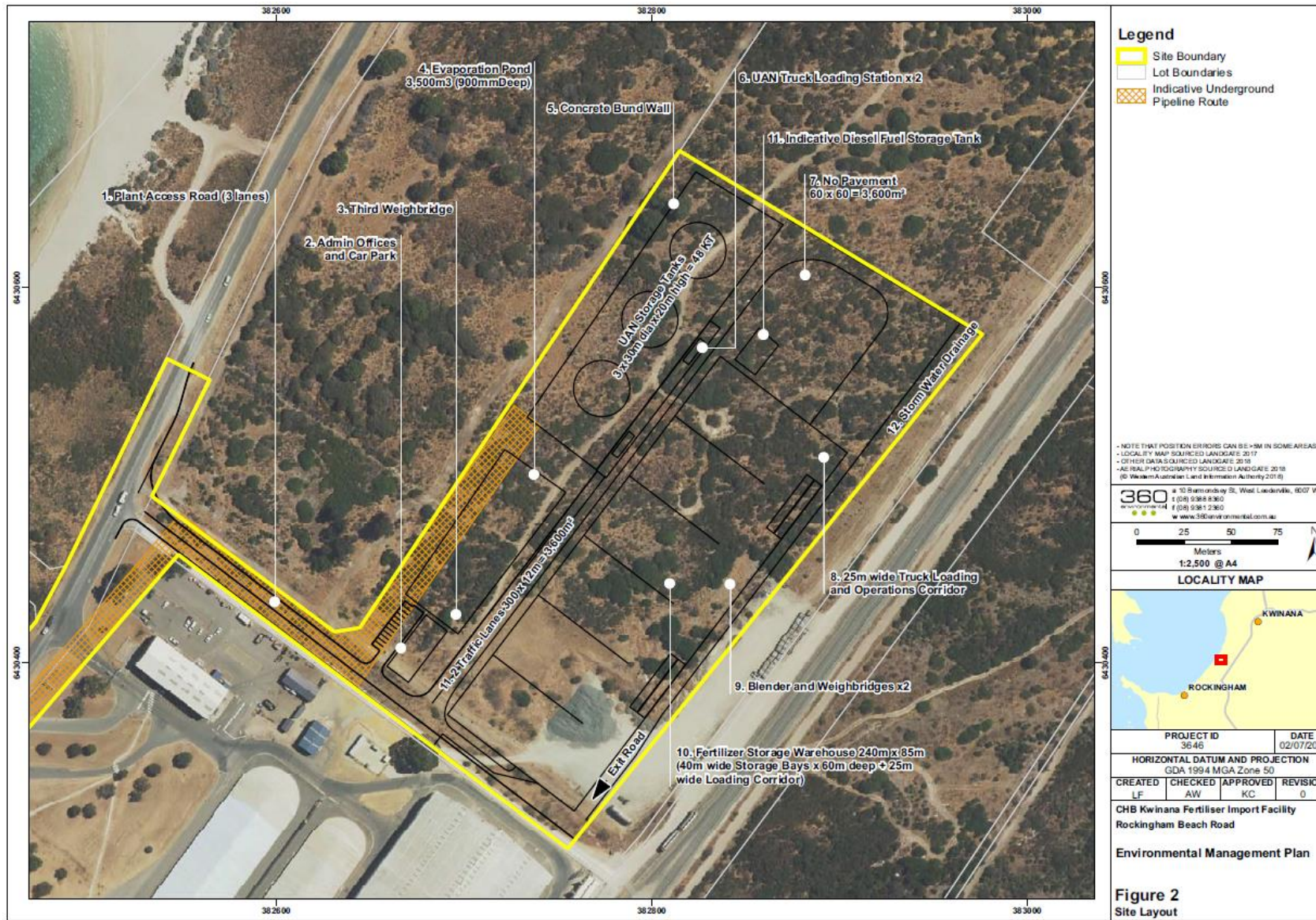


Figure 4: Proposed onshore storage facility layout

3. Legislative context

3.1 Part IV of the EP Act

The proposal to construct and operate the CBH Kwinana fertiliser project was referred to the Environmental Protection Authority (EPA) under Part IV of the EP Act on 23 September 2020 and was assessed through a referral information assessment process. The EPA released its report and recommendation on the project (Report 1701) in June 2021 and Ministerial approval for the proposal was granted through Ministerial Statement (MS) 1171 on 15 July 2021.

The EPA's assessment of the proposal considered clearing of 5.2 hectares of native vegetation in conjunction with the following key environmental factors relevant to the potential impacts from the construction and operation of the Kwinana fertiliser project:

- marine environmental quality; and
- inland waters.

As stated in Report 1701, the construction of measures to avoid and minimise potential impacts to the groundwater beneath the onshore component of the facility are subject to a works approval under Part V of EP Act which requires the facility to be designed and constructed adequately through risk based conditions. The facility will then be required to be registered under Part V of the EP Act. This will ensure any spills or leaks during the construction and operation of the proposal will be contained.

MS 1171 is subject to the following types of conditions:

- Requirement for an Environmental Quality Management and Monitoring Plan for:
 - Marine (spill response) monitoring; and
 - Groundwater monitoring
- Investigation of spills and leaks of liquid UAN fertiliser to the marine environment or groundwater and reporting to the CEO.

3.2 Contaminated sites

The lot on which the premises is to be constructed has been reported as a potentially contaminated site under the *Contaminated Sites Act 2003* and is yet to be classified by the Department.

4. Other relevant approvals

4.1 Development approval

An application for Development Approval had been submitted to the Joint Development Assessment Panel (JDAP) at the time of the works approval application. JDAP approved the proposal, subject to conditions, on 27 July 2021 (application reference: DAP/20/01878).

5. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

5.1 Source-pathways and receptors

5.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Site preparation, civil works and vehicle movements.	Air/windborne pathway	<ul style="list-style-type: none"> • use of dust suppression measures (such as water truck) as required; • 40 km/hr speed restriction for all site vehicles; • vehicles to be clean on exit from site; • minimise the size and number of stockpiles; and • ensure stockpiles are covered where necessary to prevent lift-off (particularly during unfavourable weather conditions).
Noise			<ul style="list-style-type: none"> • all plant and equipment utilised onsite will be the quietest reasonably practical; and • hours limited to meet the requirements of the Noise Regulations.
Asbestos			<ul style="list-style-type: none"> • Detailed mapping immediately prior to clearing of known and unknown fly tipped waste (360 Environmental 2020b); • all confirmed and/or potentially asbestos containing materials (ACM) to be removed by a licensed contractor and remaining soils validated to be free of ACM prior to commencement of works, in accordance with the Asbestos Removal Plan (360 Environmental 2020c); • use of dust suppression measures (such as water truck) as required; • undertaken site preparation works during favourable weather conditions; and • visual monitoring to ensure no dust leaves the site boundary.
Operation			
Odour	Fertiliser storage tanks and liquid UAN storage tanks	Air/windborne pathway	<ul style="list-style-type: none"> • Design of enclosed storage facilities and low volatility of the stored products; and • site located within an industrial area.

Emission	Sources	Potential pathways	Proposed controls
Noise	Granular fertiliser blending		<ul style="list-style-type: none"> operate within the requirements of the Noise Regulations.
Dust	Granular fertiliser blending, loading, and unloading		<ul style="list-style-type: none"> Fully enclosed storage shed with doors on the south and north sides only opening to accommodate entry and exit of trucks; and Low volatility product.
Potential leaks and spills of UAN (nutrient rich liquid) and granular fertiliser	Granular fertiliser	Direct discharge to land	<ul style="list-style-type: none"> Storage shed floor and lower containment walls will be constructed from concrete and the cladding materials of the walls and roof will be coated with steel sheeting; blending equipment will be fitted with a tripper conveyor to be controlled to evenly load the blended fertiliser into the empty trailers; all travel paths of granular fertiliser within the blending plant are fully enclosed; and trucks will be blown down and pass through the washdown bay before exiting the site.
	Liquid UAN storage tanks		<ul style="list-style-type: none"> Tanks will be constructed in accordance with American Petroleum Institute (API) 650 (Welded tanks for oil storage), and internally and externally coated with epoxy to resist corrosion; there will be a quality inspection of all welds during construction; the tanks will be hydrostatically tested to ensure the tank has no leaks prior to operation; impervious bunds will surround the UAN tanks; UAN level in the tanks will be monitored and flow diverted between tanks to control the levels and prevent overfilling; and staff will be appropriately trained in the use of spill kits to clean spills.
Potentially contaminated stormwater	Washdown bays	Direct discharge to land	<ul style="list-style-type: none"> Any potentially contaminated water from washdown bays is directed to the evaporation pond; contaminated runoff will be collected in the evaporation pond for evaporation and no infiltration is allowed; uncontaminated stormwater runoff from the first 15 mm of rainfall up to 1% Annual Exceedance Probability (AEP) event will be separated from potentially contaminated runoff using underground cells, drainage swales and soak wells; and following a 20% AEP rainfall event, water from the evaporation pond will be trucked offsite

Emission	Sources	Potential pathways	Proposed controls
	Evaporation pond	Seepage through base of pond	<ul style="list-style-type: none"> Minimum 2 mm thick HDPE liner; and estimated floor finish will be 4 m AHD, which will provide a clearance of 2.05 m to the estimated groundwater table of 1.95 m AHD
		Overtopping	<ul style="list-style-type: none"> Design capacity of 3000 m³ and 300 mm freeboard; Designed to cater for a 5% AEP 24 hour event, plus the capacity to store rainfall resulting from a 90th percentile wet season after the allowance of evaporation loss; and water may need to be trucked offsite during the wettest months (August/September) to maintain required freeboard.

5.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 2: Sensitive human and environmental receptors

Human receptors	Distance from prescribed premises
Public recreation reserve	adjacent to western premises boundary
Cockburn sound, Kwinana Beach	200 m west
Well's Park (public recreation)	370m northwest
Caravan park and closest residence	550 m southwest
Bottle shop and owner's residence	800 m northeast
Playground	2.3 km southwest
Kwinana Golf Course	3.5 km northeast
Rockingham Town Centre	3.6 km southwest
Environmental receptors	Distance from prescribed premises
State Environmental Protection (SEP) Cockburn Sound Policy Boundary (2005)	Within Eastern Moderate Ecological Protection Zone
Underlying groundwater (non-potable purposes)	3 m BGL at the chemical storage area
Threatened Fauna <i>Southwestern brown bandicoot (Priority 4)</i>	760 m southeast

TECs/PECs <i>Woodlands over sedgeland in Holocene dune swales of the southern SCP (Critically Endangered)</i>	Prescribed premises is within the buffer
TECs/PECs <i>Tuart (Eucalyptus gomphocephala) woodlands and forests of the Swan Coastal Plain (Priority 3)</i>	290 m east

5.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 5.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 5.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works Approval W6450/2020/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A registration may be applied for following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. chemical blending not causing discharge activities. A risk assessment for the operational phase has been included in this decision report.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation

Risk Event					Risk rating ¹	Applicant controls sufficient?	Conditions ² of works approval	Reasoning
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Construction								
Earthworks and vehicle movements Construction of the hardstand, storage tanks and shed, and evaporation pond	Dust	Air/windborne pathway causing impacts to health and amenity of nearby human receptors	Residences 550 m southwest and bottle shop/ residence 800 northeast	Refer to Section 5.1	C = Slight L = Unlikely Low Risk	Y	N/A	Dust suppressant and watering will be used as required to ensure no emissions go beyond the premises. The delegated officer considers that these measures and the short timeframe of construction are sufficient to manage the risk event. The assessed risk is low and therefore construction phase conditions for the management of potential dust impacts will not be specified on the works approval.
	Noise			Refer to Section 5.1	C = Minor L = Rare Low Risk	Y	N/A	Construction activities will occur during the daytime within a heavy industrial area. The delegated officer assessed the risk to be low and does not expect construction phase emissions to impact on noise sensitive receptors. The works approval will not include specific conditions related to the risk of noise during construction.
	Asbestos fibres	Exposure to asbestos fibres via air/windborne pathway causing severe health issues to nearby human receptors	Recreational reserve adjacent to boundary (west) Other public areas 2.3 – 3 km southwest	Refer to Section 5.1	C = Minor L = Rare Low Risk	Y	N/A	Some illegal dumping may have occurred in the past, and some asbestos may be scattered on the premises. Therefore, the applicant has committed to preparing an Asbestos Removal Plan and only undertake surface disturbing works under favourable weather conditions. All confirmed and/or potentially asbestos containing materials (ACM) will be removed by a licensed contractor and remaining soils validated to be free of ACM prior to commencement of works, in accordance with the Asbestos Removal Plan. Dust suppressant and watering will be used as required and visual monitoring at the boundaries will ensure no emissions go beyond the premises. The Delegated Officer considers that these measures and the short timeframe of construction are sufficient to manage this risk event.
Operation								
Vehicle movements, loading and unloading of product, and fertiliser blending	Noise	Air/windborne pathway causing impacts to health and amenity of nearby human receptors	Residences 550 m southwest and bottle shop/ residence 800 northeast Recreational reserve adjacent to boundary (west) Other public areas 2.3 – 3 km southwest	Refer to Section 5.1	C = Minor L = Unlikely Low Risk	Y	N/A	As per section 2.3.2, the delegated officer accepted the applicant's modelled noise predictions that operational phase noise emissions will comply with relevant assigned noise levels in the Noise Regulations. The delegated officer considers the risk on noise impacts on noise sensitive receptors to be low. Also, it is also unlikely that the noise emissions will significantly contribute to the cumulative noise emissions from the Kwinana Industrial Area and unlikely to be discernible from road traffic noise from the major roads in the area at a distance. The works approval will not include specific conditions related to the risk of noise during the operational phase.
Liquid UAN storage, loading and unloading	Liquid UAN	Direct discharge to land from potential leaks and spills of liquid UAN causing contamination of in situ soils and groundwater, respectively	In situ soils Groundwater: 3 m BGL at the chemical storage area	Refer to Section 5.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1: Infrastructure and equipment Condition 2: Compliance reporting	The UAN storage tanks will be constructed to API 650 standards, be corrosion resistant and inspections of welds will take place at time of construction to ensure the tanks' integrity and ability to safely contain liquid UAN. The tanks will be contained within an impervious bund designed to Australian Standards. During operation, the UAN tanks will be monitored, and flow diverted between tanks to prevent spills from overflowing. Loading and unloading of liquid UAN will occur on a designated loading station consisting of a bunded concrete hardstand and weather awnings to minimise rainwater compromising the bund's capacity. These infrastructure controls are deemed necessary to maintain an acceptable level of risk of spills of liquid UAN impacting on the environment and have therefore been included in the works approval conditions. In addition, the delegated officer has determined that the bunded hardstands must be constructed with a minimum hydraulic conductivity of 1x10 ⁻⁹ m/s to ensure the risk of spills causing groundwater contamination of UAN is minimised. The works approval also includes reporting conditions requiring the works approval holder to submit engineering reports to verify compliance with infrastructure construction conditions prior to operation being authorised.
	Odour	Air/windborne pathway causing impacts to health and amenity of nearby human receptors	Residences 550 m southwest and bottle shop/ residence 800 northeast Recreational reserve adjacent to boundary (west)	Refer to Section 5.1	C = Minor L = Unlikely Low Risk	Y	N/A	Storage of liquid UAN is within enclosed tanks stored in a designated area at the facility, where loading and unloading into trucks will also occur. The delegated officer considers there is a low risk of amenity impacts from odour of UAN. Given the low volatility of the product and the location of the facility within an industrial area, and there being sufficient separation to receptors. The works approval will not include specific conditions related to the risk of odour during the operational phase.
Granular fertiliser storage, blending, loading and unloading			Other public areas 2.3 – 3 km southwest	Refer to Section 5.1	C = Minor L = Unlikely Low Risk	Y	N/A	Storage, blending and handling of granular fertiliser products will occur within the storage shed and all of the travel paths of the fertiliser within the blending plant are fully enclosed. The delegated officer also considers there is a low risk of amenity impacts from odour from granular fertiliser given the low volatility of the product and the location of the facility within an industrial area, and there being sufficient separation to receptors. The works approval will not include specific

Risk Event					Risk rating ¹	Applicant controls sufficient?	Conditions ² of works approval	Reasoning
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
								conditions related to the risk of odour during the operational phase.
	Dust: airborne fertiliser particles			Refer to Section 5.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1: Infrastructure and equipment <u>Condition 2:</u> <u>Compliance reporting</u>	<p>The solid fertiliser supplied to the premises will be in granular form from 2 – 4 mm in diameter, thereby minimising the risk of particles becoming airborne. Dust from blending will be captured within the blending equipment where all travel paths of the fertiliser are fully enclosed. The storage and blending of granular products will occur within the storage shed which the applicant initially proposed would be constructed with a permanent 25 m opening on the eastern side. The delegated officer determined that additional regulatory design and construction controls would be required to minimise the risk of dust emissions exiting the shed and impacting on receptors offsite. This is due to movement of the fertiliser within the shed, primarily from front end loaders pushing the product into storage cells, and the blow down of trucks using compressed air, potentially generating airborne particles. The applicant subsequently revised the shed design to be fully enclosed with doors on the southern and northern ends that shall only open to accommodate entry and exit of trucks. The delegated officer determined this design as adequate in maintaining an acceptable level of risk of dust impacting on nearby sensitive receptors. Upon completion of loading and unloading, all vehicles will be blown down to remove loose fertiliser before leaving the shed and go through the washdown bay prior to leaving the site in order to minimise dust emissions leaving the premises.</p> <p>The above controls are considered necessary for maintaining an acceptable level of risk to offsite receptors from fugitive dust and have therefore been included in the conditions of the works approval. The works approval also includes reporting conditions requiring the works approval holder to submit engineering reports to verify compliance with infrastructure construction conditions prior to operation being authorised.</p>
	Granular fertiliser products	Direct discharge to land from potential leaks and spills of granular fertiliser causing contamination of in situ soils and groundwater, respectively	In situ soils Groundwater: 3 m BGL at the chemical storage area	Refer to Section 5.1	C = Minor L = Unlikely Low Risk	Y	Condition 1: Infrastructure and equipment <u>Condition 2:</u> <u>Compliance reporting</u>	<p>The granular fertiliser will be transported to the premises in covered semi-trailers directly into the storage shed for unloading at the rear of the shed within a designated storage cell. The shed will be constructed from concrete and fabricated steel materials to further reduce risk of granular fertiliser contaminating the environment.</p> <p>The applicant's proposed measures are considered necessary and appropriate for maintaining an acceptable level of risk to the environment and have therefore been included as controls in the works approval. The works approval also includes reporting conditions requiring the works approval holder to submit engineering reports to verify compliance with infrastructure construction conditions prior to operation being authorised.</p>
Washdown bays and evaporation pond	Potentially contaminated stormwater (estimated 3 - 8 kL per day depending on truck movements)	Overtopping and seepage through base of the pond, infiltrating through soil profile causing contamination of groundwater and the Cockburn Sound	In situ soils Groundwater: 3 m BGL at the chemical storage area Cockburn Sound: 200 m west	Refer to Section 5.1	C = Moderate L = Unlikely Medium Risk	N	<u>Condition 1:</u> <u>Infrastructure and equipment</u> <u>Condition 2:</u> <u>Compliance reporting</u>	<p>Stormwater at the premises may potentially be contaminated with granular fertiliser or liquid UAN, containing high levels of nutrients that if released to the environment may have detrimental impacts to surrounding soils, and if it penetrates through to groundwater (which flows westerly) it could negatively impact on Cockburn Sound. To mitigate this risk, the applicant has committed to managing all potentially contaminated stormwater runoff from internal roads and the washdown bays by directing it to a purpose built evaporation pond and not allowing any infiltration.</p> <p>Wastewater containment infrastructure such as ponds have an inherent risk of failing due to inadequate design and maintenance practices, potentially causing the uncontrolled release of wastewater. To prevent wastewater from discharging from the pond to surrounding land via overtopping, or seeping through to groundwater, the applicant has specified controls including: 2.05 m clearance of pond base to groundwater level; installation of a minimum 2 mm thick HPDE pond liner; and the maintenance of a 300 mm freeboard at all times. The pond has been designed to cater for a 5% AEP 24 hour event, plus the capacity to store rainfall from a 90th percentile wet season. The applicant acknowledges that there may be a need for excess water to be trucked offsite during the wettest months to maintain the required freeboard.</p> <p>The delegated officer identified there was insufficient detail on pond liner design and installation specifications in the application to ensure the risk of seepage of contaminated water remains acceptable. In order to minimise the risk of faults, failures and leaks, which may lead to impacts to groundwater, the delegated officer has specified minimum requirements that are sourced from the recommendations in the Water Quality Protection Note 26 (WQPN 26), <i>Liners for containing pollutants, using synthetic membranes</i> (DoW 2013). These include construction/ installation requirements for the liner and that the liner, once installed, must meet a minimum permeability of 1x10⁻⁹ m/s across the entire pond.</p> <p>In addition to the applicant's pond design controls, these liner specifications are deemed necessary and adequate on the basis of assessed medium risk, to maintain an acceptable level of risk to the environment and have therefore been included in the works approval. The delegated officer has also included the requirement to submit an engineering certification as evidence that the infrastructure has been completed as per the works approval prior to operation being authorised.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

6. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received
Application advertised on the department's website (19/10/2020)	None received
Department of Jobs, Tourism, Science and Innovation (DJTSI) advised of proposal (19/10/20)	
Fremantle Ports Authority (FPA) advised of proposal (19/10/20)	
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (19/10/20)	
Department of Planning, Lands and Heritage (DPLH) advised of proposal (19/10/20)	DPLH had no comments on the proposal, however advised that they are preparing recommendations for consideration by the Metro Outer Joint Development Assessment Panel (DAP) application.
Local Government Authority (City of Rockingham) advised of proposal (19/10/2020)	The City had no comments on the proposal, however advised the City had received a DAP application seeking Development Approval for a Fertiliser Storage, Blending and Discharge Facility.
Applicant was provided with draft documents on 11/08/2021	The applicant responded on 19/08/2021. Refer to Appendix 1.

7. Decision

The delegated officer has determined the proposal to construct a liquid UAN and granular fertiliser blending and storage facility in Kwinana does not pose an unacceptable risk of impacts to on- and off-site receptors, noting that it is subject to MS 1171 which includes ongoing groundwater monitoring requirements. This determination is based on the following:

- the location of the premises being within an existing industrial area, with sufficient separation in place to nearby sensitive receptors;
- all granular fertiliser blending, mixing and storage being conducted within an enclosed shed, minimising the risk of fugitive dust and noise causing off-site impacts to receptors;
- all liquid fertiliser storage and transfer being conducted within bunded hardstand areas with secondary containment; and
- all potentially contaminated surface water runoff being controlled and contained on the premises.

Applicant proposed controls were generally found to be reasonable and appropriate to manage the assessed risk of emissions and discharges. The delegated officer has specified additional controls with respect to managing the medium risk posed by dust, spills/ leaks of liquid UAN and potentially contaminated stormwater. These include:

- a minimum hydraulic conductivity of 1×10^{-9} m/s of bunding and hardstand areas containing liquid UAN and potentially contaminated stormwater;
- the requirement for the pond liner to be constructed with a minimum hydraulic conductivity of 1×10^{-9} m/s and other minimum specifications consistent with recommendations in WQPN 26; and

- the requirement to submit engineering reports to verify compliance with infrastructure construction conditions prior to operation being authorised.

As the proposed activities cause the premises to be prescribed under category 75: *chemical blending or mixing not causing discharge*, the applicant will be able to apply for a registration (in place of a licence) at the completion of construction and works approval reporting. The applicant will not be subject to conditions on a registration; therefore the delegated officer considers the works approval conditions are appropriate to ensure infrastructure is adequately designed and constructed to minimise the risk of receptor impacts during the operational phase.

8. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

The works approval sets out the requirements for constructing and installing key infrastructure related to the risk of emissions. The applicant is required to undertake an audit of compliance against the works approval requirements, including certification by an engineer prior to operation being authorised.

The applicant can then apply for a registration for the operational phase of the premises. It is the applicant's responsibility to ensure that it has complied with requirements of the works approval, undertaken necessary certifications and submitted its Environmental Compliance Report to DWER prior to operating the premises once it has applied for a registration.

This assessment of the risks of activities on the premises has been undertaken with due consideration of several factors, including the documents and policies specified in this decision report.

9. References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Water (DoW) 2013, *Water Quality Protection Note 26 (WQPN 26) - Liners for containing pollutants, using synthetic membranes*, Perth, Western Australia.
5. Herring Storer Acoustics (HSA), 2020, *Acoustic Assessment: Kwinana Fertiliser Facility*, prepared on behalf of CBH Limited, July 2020.
6. 360 Environmental 2020a, *Water Management Strategy*, prepared on behalf of CBH Limited, June 2020.
7. 360 Environmental 2020b, *3800AA Baseline Environmental Assessment*, prepared on behalf of CBH Limited, April 2020.
8. 360 Environmental 2020c, *3800AB Asbestos Removal Plan*, prepared on behalf of CBH Limited, June 2020.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Section/ Condition	Summary of applicant's comment	Department's response
Decision report Sections 2.3.2 and 5.1	The applicant advised of the revised design of the granular fertiliser storage shed, which will have doors on the north and south ends to accommodate the entry and exit of trucks, rather than a permanent opening on the eastern side.	The risk assessment took into account the applicant's proposal for a permanent opening on the eastern side of the shed. On the basis of risk assessment, the delegated officer required additional control in the form of enclosure (except when trucks are entering/exiting the shed) to manage the risk of potential dust impacts on receptors. As the requirement for enclosure will be retained regardless of shed orientation, the delegated officer did not expect the change to impact on the assessed dust risk profile. The decision report and works approval were updated to reflect the change.
Works approval Condition 1; Table 1		
Decision report Section 2.3.4	Applicant advised there will be up to 4 truck movements an hour; averaging 96 daily truck movements within the facility.	The decision report originally assessed the environmental risk posed by 3 truck movements an hour; averaging 72 a day. The delegated officer did not expect this to impact of the assessed risk profile of emissions and discharges. The decision report was updated.
Decision report Section 2.3.5	The applicant sought clarification as to why the weighbridges and office amenities were excluded from the assessment.	Office buildings are generally not within the scope of assessing the risk of emissions and discharges from the prescribed premises. The proposed sewage ATU system was identified to be below the production and design capacity threshold for category 54 and 85. Notwithstanding, the applicant provided very minimal detail on the design and operation of the system including the irrigation of treated wastewater. The delegated officer notes the applicant will be subject to relevant approvals and requirements under health legislation. The delegated officer noted the proposed weighbridge, how did not consider it relevant to the assessment of emissions and discharges. The applicant's information advised the weighbridge is for weighing full or empty trucks accessing the facility which is not an activity that directly relates to emissions and discharges.
Decision report Section 4.1	JDAP approval was granted on 27 July 2021. A copy of the determination letter was provided.	Decision report updated.
Decision report	Minor changes to wording and corrections of clerical errors within parts of the decision report and works approval.	Decision report and works approval corrected.
Works approval		

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	23 September 2020	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Co-operative Bulk Handling Limited (CBH Ltd)	
Premises name	n/a	
Premises location	Lot 108 on Deposited Plan 400167 the whole of the land in certificate of Title Volume 2953 Folio 177	
Local Government Authority	City of Rockingham	
Application documents		
HPCM file reference number:	DER2018/001045-4	
Key application documents (additional to application form):	<ul style="list-style-type: none"> - Landowner letters of authority - Premises Maps - 360 Environmental Report including Environmental Management Plan, Water Management Strategy, Site and Soil Evaluation, Acoustic Assessment 	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	<p><i>Works approval</i></p> <p>Construction of an offshore pipeline along the CBH Grain Terminal jetty and onshore liquid storage tanks, granular fertiliser storage warehouse and associated site infrastructure.</p>	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Proposed production or design capacity	
Category 75: Chemical blending or mixing not causing discharge	Granular fertiliser: 200,000 tonnes per annum; Liquid UAN: 180,000 tonnes per annum	
Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>(intend to refer)</i>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	(Ministerial statement No: MS863 for the development of Rockingham Industrial Zone (held by Landcorp). EPA Report No: 1390)

<p>Has the proposal been referred and/or assessed under the EPBC Act?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>(Reference No: EPBC 2010/5337 for the development of the Rockingham Industrial Zone (held by Landcorp)).</p>
<p>Has the applicant demonstrated occupancy (proof of occupier status)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry: Applicant has provided authorisation letters signed by landowner (DevelopmentWA) and jetty owner (Fremantle Ports Authority) to progress with approvals. Formal lease will not be signed until approvals and permits are granted.</p>
<p>Has the applicant obtained all relevant planning approvals?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Approval: Expiry date: If N/A explain why? Development application submitted concurrently to this works approval.</p>
<p>Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>CPS No: N/A Clearing of 5.2 ha proposed to construct hardstand and associated project infrastructure.</p>
<p>Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: N/A Licence/permit No: N/A See above.</p>
<p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: N/A Licence/permit No: N/A Licence / permit not required.</p>
<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: N/A</p>

<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Dangerous Goods safety (Storage and Handling of Non-explosives) Regulations and Australian Standards AS 1940 – The storage and handling of flammable and combustible liquids. Up to 20,000L diesel stored on site. 180,000L liquid UAN per annum</p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>