



Application for Licence Amendment

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

Licence Number	L4474/1976/14
Licence Holder	Fremantle Port Authority
ACN	0400 474 363
File Number	DEC1712/5
Premises	Kwinana Bulk Jetty Port Road KWINANA BEACH WA 6167 Lot 4552 on Plan 220690; and Portion of Lot 497 on Plan 35196
Date of Report	7 April 2022
Decision	Revised licence granted

MANAGER, RESOURCE INDUSTRIES REGULATORY SERVICES

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

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1. Decision summary

Licence L4474/1976/14 is held by Fremantle Port Authority (Licence Holder) for the Kwinana Bulk Jetty (the Premises), located at Lot 4552 on Plan 220690; and Portion of Lot 497 on Plan 35196.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L4474/1976/14 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment 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

Kwinana Bulk Jetty (the Premises) is located approximately 20km south of Fremantle. The Premises comprises two shipping berths and associated infrastructure including conveyor systems and transfer towers. The berths are known as Kwinana Bulk Berth 3 (KBB3) and Kwinana Bulk Berth 4 (KBB4), which accommodate ships handling sulphur, fertilisers, and a range of other bulk products. Both berths also provide facilities for various types of bulk liquid commodities, including petroleum.

On 20 January 2022, the Licence Holder applied to the department to amend Licence L4474/1976/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The following amendments are being sought:

- Increase the grouped tonnage for granulated slag, gypsum, and nut coke from 340,600 to 584,600 tonnes per annum.
- Decrease the volume of silica sands from 484,000 tonnes to 240,000 tonnes per annum.

It is noted that the increase in granulated slag, gypsum and nut coke is being matched by a corresponding decrease of 244,000 tonnes of silica sand. Therefore, there is no proposed increase to the total volume of materials of Category 58, and 59 in the current licence (3,560,800 tonnes).

An overview of products and proposed changes to tonnage is shown in Table 1.

Table 1: Proposed changes to product tonnage

Product	Current authorised volume (tonnes)	Proposed volume (tonnes)
Cement clinker	450,300 tonnes	No change
Granulated slag Gypsum Nut coke	340,600 tonnes (total)	584,600 tonnes (total), increase of 244,000 tonnes

Ammonium sulfate Phosphates Potash Soda ash Urea	1,460,900 tonnes (total)	No change
Silica sands	484,000 tonnes	240,000 tonnes, decrease of 244,000 tonnes.
Soya bean meal	150,000 tonnes	No change
Sulfur	675,000 tonnes	No change
Total Licence Volume	3,560,800	3,560,800

Based on product density and ship capacity, the proposed change in material volume is expected to affect the number of vessels unloaded at the Premises. In an annual period, the Premises is expected to unload 5 fewer vessels carrying silica sand, but unload 7 additional vessels carrying granulated slag, gypsum, or nut coke. In total this increases the number of vessels to be unloaded at the Premises from 124 to 126 per year.

2.2.1 Product overview

The products referenced in this Amendment Report are currently included in the Licence and are authorised to be unloaded and handled on the Premises. Nut coke was assessed during a previous licence amendment (March 2021) and is included in the licence to cater for emergency shipments when the Kwinana Bulk Terminal premises (L4476/1984/12, held by the same Licence Holder) is in unplanned shutdown or similar.

The Licence Holder does not provide a breakdown on the individual tonnage that it expects granulated slag, gypsum, or nut coke to increase by. The Delegated Officer notes that these are similar products handled with similar methods, and that a licence amendment in March 2021 combined these three products into a single volume in the licence.

Table 2 provides a summary of the material properties of granulated slag, gypsum, and nut coke.

2.2.2 Product handling

Depending on berth, ships can be unloaded in several ways. KBB3 is equipped with two bulk material hoppers that includes dust extraction units, dust grid on the hopper, conveyor covers and truck loading chutes.

KBB4 is equipped with a Siwertell auger-type continuous unloader which the Licence Holder considers as a “state of the art fully enclosed unloading system”. The Siwertell unloader can transfer material via a conveyor belt system, or underneath through bellows (chutes) to trucks.

Grabs, smaller standard mobile hoppers, and deflector plates are also used for vessel unloading. None of these systems are proposed to be changed as part of this licence amendment and the Licence Holder has indicated that there is no proposed change to the method of handling the relevant products.

Table 2: Summary of relevant products handled at the Premises

Product	Type ¹	Description	Environmental hazards ¹	Health hazards ¹	Handling method
Granulated slag	Physically treated raw material	<ul style="list-style-type: none"> Granulated slag comprises of golf-ball sized round nuggets. Fines can arise however as granulated slag has a high moisture content (4-6%) dust emissions are unlikely to occur. Granulated slag is insoluble in water. Granulated slag is odourless. 	N/A	N/A	<ul style="list-style-type: none"> There are no proposed changes to the handling of granulated slag onsite. The cargoes are unloaded via ships grabs to mobile hoppers.
Gypsum	Physically treated raw material	<ul style="list-style-type: none"> Gypsum is composed of calcium sulfate dehydrate. Gypsum is moderately soluble in water. Gypsum is odourless 	N/A	<ul style="list-style-type: none"> Crystalline silica Radiological components 	<ul style="list-style-type: none"> There are no proposed changes to the handling of gypsum onsite. The cargoes are unloaded via ships grabs to mobile hoppers.
Nut coke	Chemically treated raw material	<ul style="list-style-type: none"> Nut coke is a solid carbonaceous material. Nut coke is insoluble in water. 	N/A	N/A	<ul style="list-style-type: none"> Nut coke will be imported via the same handling method as gypsum and granulated slag.

¹ DWER 2018 *Guideline: Port Authority bulk handling trials*, Appendix B – Products table

3. 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 *Guideline: Risk assessments* (DWER 2020).

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.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 3 below. Table 3 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 3: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	<p>Increase of granulated slag, gypsum and nut coke grouped tonnage (seven additional shipments)</p> <p>Decrease in silica sands tonnage (five fewer shipments)</p>	<p>Air/windborne pathway causing impacts to health and amenity</p> <p>Residential receptors (closest 2.3 km from premises)</p> <p>Industrial receptors (closest 1.2 km from premises)</p>	<ul style="list-style-type: none"> Sweeper trucks to remove dust, spilt and accumulated material from berth and jetty neck and all trafficable areas within the prescribed premise. Stevedore monitors and controls lowering of grab into hoppers to reduce dust emissions. Weather monitored and discharge rate reduced or delayed in response to adverse weather conditions. Long distance of operations from the nearest sensitive receptors (closest residential premises is 2,300 meters and closest industrial building is 1,200 meters). Incident response procedures including recording, investigation, and actioning of incidents. Inspected by Fremantle Ports personnel (Environmental Advisor) during ship unloading. Adequate moisture content of granulated slag on arrival to berth reducing potential for dust lift off from product.
Noise	Total of two additional shipments, from 124 vessels to 126 vessels per annum.		<ul style="list-style-type: none"> Long distance of operations from the nearest sensitive receptors (closest residential premises is 2,300 meters and closest industrial building is 1,200 meters). Mobile hoppers and ships grabs emit low levels of noise.

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> Complaints management system. <p><i>The Delegated Officer considers it unlikely a Risk Event for noise emissions will occur as a source pathway receptor linkage does not exist based on the distance from proposed activities. Given this fact, noise is not further assessed in the risk assessment.</i></p>

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors, and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 4 below provides a summary of potential human and environmental receptors that may be impacted because of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential premises	Closest 2.3 km south-west of premises
Industrial premises	Closest 1.2 km north-east of premises
Environmental receptors	Distance from prescribed activity
Cockburn Sound (State Environmental Policy Area)	<p>Within and adjacent to the premises boundary.</p> <p>The current licence has an extensive Cockburn Sound monitoring network. Therefore, this receptor will not be further assessed below.</p>

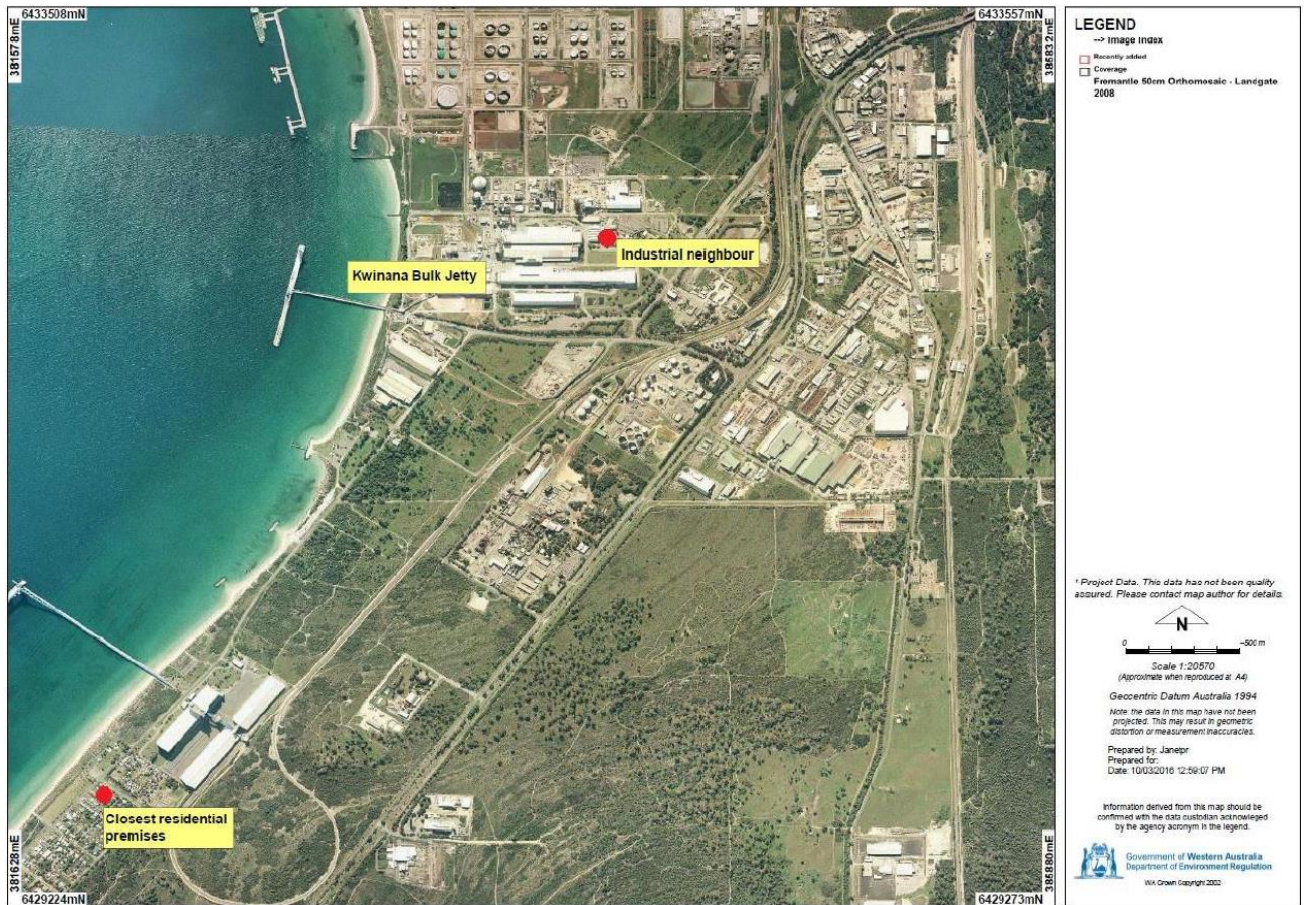


Figure 1: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and considers potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

The Revised Licence L4474/1996/14 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e., bulk material loading or unloading.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 5. Risk assessment of potential emissions and discharges from the Premises operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation (including time-limited-operations operations)								
Increase of granulated slag, gypsum and nut coke grouped tonnage (seven additional shipments)	Dust	Air/windborne pathway causing impacts to health and amenity	Residential receptors (closest 2.3 km from premises) Industrial receptors (closest 1.2 km from premises)	Refer to section 3.1	C = Minor L = Unlikely Medium Risk	Y	Existing Schedule 3, Table 6: Infrastructure and equipment control table. (4. Bulk material hoppers, 5. Ship grab and hoppers, 9. Specified action KBB3 and KBB4 and Jetty Neck)	<p>The Delegated Officer notes that the handling nut coke remains a contingency action only, and when Kwinana Bulk Terminal is in shut down or similar.</p> <p>The Delegated Officer also notes that handling methods for granulated slag and gypsum are to remain the same as currently required in the Licence (bulk material hoppers, or by the Siwertell auger-type unloader) and the total throughput of the Premises is proposed to remain the same.</p> <p>While fugitive dust, in the form of PM10, may increase due to the increase in volume of granulated slag, gypsum and nut coke being handled (unloaded from ships, or while loading products from hoppers into trucks on the berth), the Delegated Officer considers that with the corresponding decrease in volume of silica sands being unloaded at the Premises, it is unlikely that dust emissions will increase significantly.</p> <p>The Delegated Officer considers the existing controls in the Licence to be sufficient in managing dust emissions associated with this amendment.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

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

4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Local Government Authority advised of proposal 23 March 2022	None received.	N/A
Licence Holder was provided with draft amendment on 31 March 2022, response received 6 April 2022.	Licence Holder made no comment and asked that the remainder of the consultation period be waived, and that the final instrument be granted as soon as possible.	N/A

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 7: Summary of licence amendments

Condition no.	Proposed amendments
Table 1: Licence amendments	Include note related to this amendment, for the increase in volume of granulated slag, gypsum, and nut coke, and decrease in volume of silica sand.
Table 5: Bulk materials volumes assessed	Change to commodity volumes. Increase volume of grouped products (granulated slag, gypsum, and nut coke), and decrease in volume of silica sand.

References

1. Fremantle Port Authority 2022, Licence holder application form and supporting information, "*Fremantle Ports KBJ Licence Amendment Application 20 January 2022*", Fremantle, Western Australia.
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
5. DWER 2018, *Guidelines: Port Authority bulk handling trials*, Perth, Western Australia

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L4474/1976/14	
		Relevant works approval number:	N/A	<input checked="" type="checkbox"/>
Date application received	20/01/2022			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Fremantle Port Authority			
Premises name	Kwinana Bulk Jetty			
Premises location	Lot 4552 on Plan 220690; and Portion of Lot 497 on Plan 35196			
Local Government Authority	City of Kwinana			
Application documents				
HPCM file reference number:	DEC1712/5			
Key application documents (additional to application form):	<ul style="list-style-type: none"> • Application letter • Risk assessment - Increase in granulated slag, gypsum & nut coke combined tonnage from 340,600 to 584,600 tonnes / annum • Attachment 8A. Kwinana Bulk Jetty Licence amendment supporting information - L4474/1976/14 			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	<ul style="list-style-type: none"> • Increase in the granulated slag, gypsum and nut coke grouped tonnage from 340,600 to 584,600 tonnes per annum. • Volume of silica sands decreased from 484,000 tonnes to 240,000 tonnes. <p>There is no proposed increase to the total volume of materials as per the current licence (3,560,800 tonnes).</p>			

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity [tonnes]	Proposed changes to the production or design capacity
Category 58	<ul style="list-style-type: none"> • Cement clinker 450,300 tonnes • Granulated slag, Gypsum, Nut coke 340,600 tonnes • Ammonium sulfate, Phosphates Potash Soda ash Urea 1,460,900 tonnes • Silica sands 484,000 tonnes • Soya bean meal 150,000 tonnes • Sulfur 675,000 tonnes 	<p>Changes to the following products only (no change in overall total assessed production or design capacity)</p> <ul style="list-style-type: none"> • Granulated slag, Gypsum, Nut coke: 584,600 tonnes • Silica sands 240,000 tonnes

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 type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	N/A not required
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Licence / permit not required. Valid licence applies (GWL65541(4))
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A

Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
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</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Environmental Protection (Kwinana) (Atmospheric Wastes) Regulation 1992 State Environmental (Cockburn Sound) Policy 2015
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Environmental Protection (Kwinana) (Atmospheric Wastes) Regulation 1992
Is the Premises subject to any EPP requirements?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ambient air quality standards and ambient air quality limits for concentration of atmospheric wastes; EPP defines 3 areas (A, B, C); premises is located within Area A (heavy industry); TSP standard & limit
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Classification contaminated – restricted use (C–RU) Date of classification: 29/05/2018