LEGISLATIVE COUNCIL
Question Without Notice

Wednesday, 4 August 2021

C456. Hon Dr Steve Thomas to the Leader of the House representing the Minister for Ports

I refer to Fremantle Port Authority's application under Part V of the EPA Act to amend its license to export iron ore from 5.1 million tonnes per annum to 2.5 million tonnes per annum from August 2020, and I ask:

1. What volume of iron ore was exported from Kwinana Bulk terminal for the financial years 2016-17 to 2020-21 inclusive?
2. Why did the Fremantle Port Authority request to decrease its export of iron ore from Kwinana Bulk Terminal from 5,100,000 to 2,500,000 tonnes a year effective from August 25th 2020?
3. Will the Minister table the process and decision within Fremantle Port Authority effectively halving its export of iron ore from Kwinana Bulk Terminal? And
4. If not, why not?

Answer

1.

2016/17: 4,301,838

2017/18: 3,138,490

2018/19: 16,079

2019/20: Nil

2020/21: 318,345

2-4. I table the attached publicly available document.

Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

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

Licence Number	L4476/1984/12
Licence Holder	Fremantle Port Authority
ABN	78 187 229 472
File Number	DEC4825/3
Premises	Kwinana Bulk Terminal Riseley Road, KWINANA BEACH, WA, 6167 CITY OF KWINANA Legal description – Lot 452 on Plan 220690, Part of Lot 11 on Deposited Plan 39572 and Lot A within Lot 251 and Lot C within Lot 250 on Deposited Plan 415974
Date of Report	25 August 2020
Decision	Revised licence granted

Lauren Fox
Digitally signed by Lauren Fox
Date: 2020.08.25 11:15:22 +08'00'

Lauren Fox
A/MANAGER – RESOURCE INDUSTRIES
An officer delegated by the CEO under section 20 of the EP Act

Table of Contents

1. Decision summary

Licence L4476/1984/12 is held by Fremantle Port Authority (Licence Holder) for the Kwinana Bulk Terminal (the Premises), located on Riseley Road within the City of Kwinana.

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 L4476/1984/12 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises.

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://www.der.wa.gov.au.

2.2 Application summary

On 6 July 2020, the Licence Holder submitted an application to the department to amend Licence L4476/1984/12 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- The addition of Silica Sands export via conveyors EC03 and EC04 following a 12 month trial period.
- The decrease of annual Iron Ore export tonnage from 5,100,000 to 2,500,000 tonnes.

This amendment is limited only to changes to Category 58 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 58A have been requested by the Licence Holder.

Table 1 below outlines the proposed changes to the existing Licence.

Table 1: Proposed throughput capacity changes

Category	Current annual throughput capacity	Proposed annual throughput capacity	Description of proposed amendment
58	Iron ore – 5,100,000 tonnes	2,500,000 tonnes	In order to facilitate the export of Silica Sands, the Licence Holder has requested Iron Ore tonnage to be reduced to 2,500,000 tonnes. The total tonnage of overall commodities will therefore remain at 9,600,000
	Silica Sand – 0 tonnes	2,600,000 tonnes	Up to 2,600,000 tonnes annually of silica sands are expected to be exported at the Premises. This is a new commodity to the licence.

On 27 February 2019, the Licence Holder submitted a Trial Notification to the department for the export of silica sands through conveyor EC03. On 9 July 2019, the Licence Holder submitted a second Trial Notification for the export of silica sands through conveyor EC04. However, as part of EC04 was located outside of the prescribed boundary, an amendment to extend the boundary was required first. Amendment Notice 1 was issued on 13 August 2019 to expand the boundary to include EC04 and to allow the Trial to commence. The Trial at EC04 started on 15 September 2019, with the first monitoring report submitted on 11 October 2019. DWER notes that to date, the Trial using EC03 has not commenced.

Silica sands is an unmodified raw material composed mostly of crystalline silica (quartz). It has been washed to remove the fines component of the material. It is delivered to site via trucks and stored in an open stockpile on EC04 and/or EC03 stockpile pads.

As per requirements of the Trial Notification licence conditions, monitoring reports were submitted to DWER at one, four, seven and 10 months from the date of the first Trial shipment. These reports include 15-minute averaged Total Suspended Particulates (TSP) for the duration of the shipment as well as meteorological data. They also include the moisture content of the product compared to the representative Dust Extinction Moisture (DEM) level and a summary of effectiveness of controls for emissions and discharges.

The reports provided demonstrate that no levels of concern for dust occurred throughout the duration of Trial shipments, even when high wind events were recorded. TSP monitoring is currently required through the licence at four monitoring locations and includes Reportable Event Criteria of greater than or equal to 260 µg/m³ over a 24-hour period. This criteria is derived from the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* (Kwinana EPP Regulations). The limit for the 15 minute averaging period from the Kwinana EPP Regulations is 1,000 µg/m³.

During the first and second Trial shipments, there were no exceedances of the 15 minute (1,000 µg/m³) or 24-hour average (260 µg/m³) for all monitoring stations. Due to no Trial shipments occurring between the four and seventh month mark, the seven month report does not contain any data. During the third Trial shipment, which ran for five days, there were no exceedances of the 15 minute (1,000 µg/m³) or 24-hour average (260 µg/m³). The wind data from this date and at the corresponding times shows high wind speeds with direction predominantly from the northwest.

Figure 1 below shows the location of the dust monitors in relation to the stockpiles.

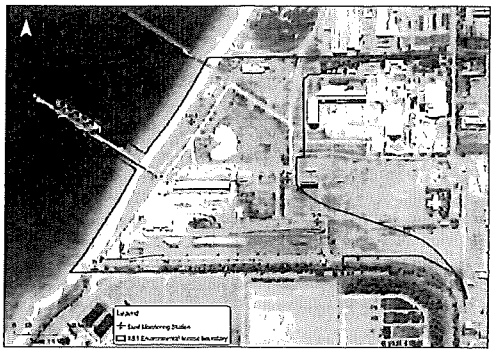

Figure 1: Dust monitoring location map

No complaints were received during or as a result of the trials. For each of the Trials, the moisture content was well above the DEM for all product handled, with certificates of analysis provided.

The obligations of the Licence Holder have not changed in consolidating the licence. The department has not undertaken any additional risk assessment of the Premises related to previous Amendment Notices.

In consolidating the licence, the CEO has:

- updated the format and appearance of the Licence;
- revised licence condition's numbers and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The full consolidation of licence conditions as they relate to this Revised Licence are detailed in Section 5.1. Previously issued Amendment Notices will remain on the department's website for future reference and will act as a record of the department's decision making.

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 *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.

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 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	Silica Sands stockpiles for EC03 and EC04 and conveyors – loading and unloading activities (including loading product from stockpile by front-end-loader (FEL) to EC04 hopper, to EC04 conveyor, to JC01 conveyor, to AL04 ship loader and to ship)	Air/windborne pathway	• Sweeper trucks to remove dust, spilt and accumulated material from all trafficable areas; • Stockpile Management Plans; • Inspected by licensee personnel • Washed product. No fines detectable at levels to allow a DEM to be determined. A conservative moisture content at or above 0.2% no dust is generated. Moisture content of product on arrival is 2 – 5%; • Particle size distribution assessment of the product shows particles range between 53um to 1.18mm, therefore no respirable component (<10um) of the product; • TSP boundary dust monitoring network (as required by L4476/1984/12); • Real-time dust alarms; • KBT Dust Management Strategy; • Stockpile sprinklers on EC03 and EC04 pads; • JC01 conveyor fitted with conveyor sprinklers; • Complaint management system in place (no complaints received during the trial shipments)
Noise	Loading and unloading of product by FEL as well as noise associated with truck movements	Air/windborne pathway	• Effective distance between source and sensitive receptors; • Stockpile Management Plans in place; • FEL, conveyors (eC03 and EC04) and shiploading infrastructure emit low level noise; • Complaint management system in place (no complaints received during the trial shipments)
Product (silica sands)	Discharge to surface water during loading of product via jetty conveyors (JC01-JC03) and shiploader (AL04) to	Direct discharge to marine environment	• Mechanical sweeper to remove spilt material from berth; • Operations managed by experienced stevedore crews with regular inspections undertaken;

			requirements; • Material characterisation (physical and chemical) presents low environmental risk to the marine environment; • FPA safety and environment assessment of new bulk product – completed and effective; • Pre and post mechanical shipping checks and infrastructure maintenance control system; • Scheduled post shipping clean of berth.
Runoff	Contaminated stormwater	Restricted pathway due to a road and 200 m separating the stockpile.	• Stockpile drainage design and maintenance • Site stormwater drainage network (no direct discharge to Cockburn Sound) EC04 and EC03 pad drains to Area D Stormwater infiltration basin; • Stockpiles and stormwater drainage network inspected by licensee environmental personnel; • Cockburn Sound monitoring undertaken as per licence requirements; • Material characterisation (physical and chemical) presents low environmental risk to the marine environment; • FPA safety and environment assessment of new bulk product – completed and effective.

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), 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 as a result of activities upon or emission and discharges from the prescribed premises *(Guidance Statement: Environmental Siting* (DER 2016)).

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

Human receptors	Distance from prescribed activity
Closest residential receptor	3.6 km from both EC03 and EC04 open stockpile area, and 4.2 km from the shiploader as depicted in Figure 2
Closest zoned industrial office building	600 m to the north-east of stockpile area as depicted in Figure 3
Environmental receptors	**Distance from prescribed activity**
Cockburn Sound (proclaimed State Environmental Policy area)	Within and directly adjacent to the Premises Boundary

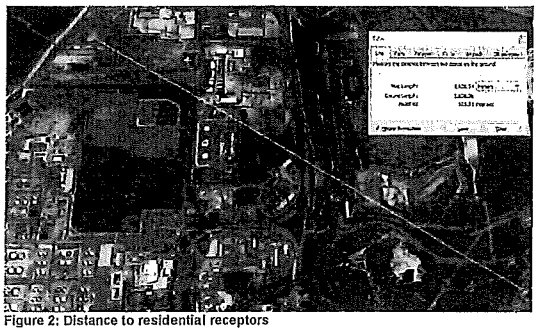

Figure 2: Distance to residential receptors

Figure 3: Distance to nearest industrial office (617m)

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete 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 L4476/1984/12 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

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 during 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 pathway and impact	Receptors	Licence Holder's controls				
Handling of silica sands using loaders, hoppers, conveyors and ship loading system	Dust	Air/offsite pathway causing impacts to health and amenity	Closest residential receptor is 3.6km to the south-east and the nearest industrial office is 600m to the north-east	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Conditions 1 and 8-10	The applicant indicates that the silica sands are a washed product with the dust component removed. Particle size distribution were found to range from 53µm – 1.18µm, where particles less than 53µm were not identified. Existing conditions relating to dust including a comprehensive dust monitoring program are deemed sufficient. No additional regulatory controls required.

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 pathway and impact	Receptors	Licence Holder's controls				
Handling of silica sands using loaders, hoppers, conveyors and ship loading system	Noise	Air/offsite pathway causing impacts to health and amenity	Cockburn Sound located within and directly adjacent to the Premises	Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	N/A	There are no existing conditions relating to noise within the licence. The Licence Holder is required to comply with the *Environmental Protection (Noise) Regulations 1997*
	Spill of product	Direct discharge of product to surface water during ship loading		Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Conditions 6, 9, 10 and 17	Existing conditions relating to discharge of product including a comprehensive Cockburn Sound monitoring program are deemed sufficient. No additional regulatory controls required
	Sediment laden stormwater	Contaminated surface water runoff		Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	Conditions 8 and 9	Existing conditions relating to contaminated stormwater runoff including a comprehensive Cockburn Sound monitoring program are deemed sufficient. No additional regulatory controls required

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

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

3.3 Detailed risk assessment for dust and noise

3.3.1 Dust emissions

The moisture content of silica sands received at the Premises will be at or above the DEM level of 0.2%. The silica sands is a washed product which removes the fines component of the material. The particle size distribution assessments show that here is no respirable component (<10um) of the product.

The distance between the nearest industrial receptor and the EC04 and EC03 stockpile area is approximately 617 m which suggests there might be a possible pathway for dust to reach receptors. Given the moisture level and composition of the silica sands, along with the Licence Holder controls, listed in section 3.1, the consequence of dust from the silica sands impacting the health or amenity of the industrial receptors is rated as **slight**. The likelihood is **unlikely** as the risk event will probably not occur in most circumstances which makes the overall risk to be **low**.

3.3.2 Noise emissions

Noise has the potential to impact amenity. The Premises' nearest noise sensitive receptors are located within the Kwinana Industrial Area (KIA) and are therefore assigned a higher acceptable noise level than other industrial receptors under the *Environmental Protection (Noise) Regulations 1997* (EP Noise Regulations). As per the Decision Report issued in February 2019, The Licence Holder has demonstrated compliance with the EP Noise Regulations through a previous noise report. The consequence of noise emission impacts on noise sensitive receptors is considered to be **slight**. As there is no proposed increase to overall product handling volume, and given the distance to the residential receptors, the likelihood of noise impacts remains rare. The overall likelihood of noise emissions remain at **Low**.

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 22 July 2020	No comments received.	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
Premises address	Premises address updated as per Amendment Notice 1
Schedule 1	Premises map in Schedule 1 replaced with updated map depicting updated premises boundary as per Amendment Notice 1
Schedule 2	Table 6 updated to include detail of Hopper systems in Row 8 as per Amendment Notice 1. Row 11 is amended to include EC04 as per Amendment Notice 1. The Licence Holder has confirmed the two mobile conveyors are no longer required as the EC04 Hopper has been modified and reinstated.
Schedule 2	Table 7 amended to decrease iron ore annual tonnage from 5,100,000 to 2,500,000. Silica sands added to table with an annual tonnage of 2,600,000. The overall total tonnage has not been amended.
Schedule 3	Row 1 amended to include EC04

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. Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1999 (Kwinana EPP) and Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations
5. Fremantle Ports 2020, *Application for Licence Amendment – Kwinana Bulk Terminal (L4476/1984/12) – Addition of Silica Sands to Licence*, 6 July 2020

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

Condition	Summary of Licence Holder's comment	Department's response
Schedule 2, Table 6 Row 8	Fremantle Ports notes the change to *Hopper* systems to include EC05 (Hoppers H1 to H7) and EC04 Hopper(s). Please note there is only one hopper on EC04 therefore should be noted as "EC04 Hopper rather than 'EC04 Hopper(s)'.	Modified to "EC04 Hopper".
Schedule 2, Table 6, Row 11	Fremantle Ports notes the change to *Conveyor System for exports from truck receivals to KBB2* to include "EC03 (to ALG4 shiploader), EC04".	N/A
Schedule 2 Table 7 Bulk material tonnages assessed	Fremantle Ports notes the reduction of iron ore (exported) from 5,100,000 to 2,500,000 and the addition of 2,600,000 silica sands (exported)	N/A
Schedule 3, Table 8, Infrastructure and equipment controls table Row 1 Column 1	EC04 conveyor has been incorrectly added to Dust Management Infrastructure as wind shields or sprinklers are not fitted to the conveyor. Dust is managed via stockpile sprinklers on EC04 stockpile. In addition, EC03 conveyor is an underground conveyor therefore does not require wind guards or sprinklers fitted to the conveyor to handle silica sands. Dust is managed via stockpile sprinklers on EC03 stockpile. Fremantle Ports requests that EC03 and EC04 conveyors are removed from Row 1, Column 1 of Table 8	This has been removed from Column 1 and Column 2 and has been modified to include a note stating that dust associated with EC04 conveyors will be managed by nearby stockpile sprinklers. Additional text added to Column 1 to reflect that EC03 is an underground conveyor.
Dust Monitoring Location Map (p. 23)	Attached a map depicting dust monitoring locations and the extended premises boundary for inclusion to the Licence.	The updated dust monitoring map has been included in the licence.
Amendment Report	**Summary of Licence Holder's comment**	**Department's response**
Section 2.2 Application summary – second dot point	Please note the second dot point incorrectly spells annual as "annul.	Corrected

Condition	Summary of Licence Holder's comment	Department's response
Section 2.2 Application summary – 7th, 8th & 9th paragraph	Fremantle Ports notes that the amendment report compares the 15 minute average TSP data from silica sands loading against the NST licence reportable event criteria 24 hour average of 260µg/m³. Fremantle ports does not agree that 15 minute average data should be compared against the daily 24 hour average criteria and recommends comparing the 15 minute average data to the 15 minute criteria of 1600 µg/m³ derived from the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992*.	The decision report has been amended for clarity, to remove confusion between 15 minute and 24 hour average criteria
Section 2.2 Application summary – Figure 1	Attached a map depicting dust monitoring locations and the extended premises boundary for inclusion within the amendment report and licence.	The updated dust monitoring map has been included in the amendment report.
Section 3.1.1 Emissions and Controls – Table 3, Dust – proposed controls	Fremantle Ports notes that the following proposed controls have been previously communicated to DWER as the licence holder controls to manage dust emissions of silica sands: • Site water cart to maintain moisture content of stockpiled product • Stockpile sprinklers on EC03 and EC04 pads Fremantle Ports would like to note that the site water cart will not be used in future to maintain moisture content of stockpiled product as stockpiled sprinklers are installed to maintain moisture content of stockpiled product.	The decision report has been amended to remove use of water carts on stockpiles. Schedule 3, line 6 will remain within the conditions however requiring that "Water truck with cannon utilised at first signs of visible dust lift-off from the stockyard not suppressed by the fixed sprinkler system to augment sprinkler systems."
Section 3.2 Risk ratings, Table 5 – Potential Emission - Dust	Fremantle Ports notes that dust emissions associated with handling silica sands has been rated as a Medium risk. Fremantle Ports advises that silica sand is a washed product to remove the fines component, therefore recommends reducing to a lower risk rating considering there is no respirable component within the cargo (please refer to Appendix 3a-f of the licence amendment application, Silica Sands Particle Size Distribution).	DWER has reviewed particle size distribution assessments and has subsequently modified the risk rating to low. Existing regulatory controls remain unchanged however
Section 4. Consultation, Table 6	Fremantle Ports notes DWER has advised the Local Government Authority of the licence amendment and is currently awaiting comments that are due to be received by 5 August.	DWER has received no comments from the City of Kwinana with respect to the application.