



Licence Number L6744/1996/12

Licence Holder Southern Ports Authority

File Number: 2010/006313-1

Premises Southern Ports Authority
Lot 963 on Plan 220558 and Lot 962 on plan 219848
Inner Harbour – Berth 5 and 8
BUNBURY WA 6230

Date of Amendment 15 February 2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Clarrie Green

A/Manager, Resource Industries

Regulatory Services

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

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Notice	refers to this document
ANZECC guidelines	Australian New Zealand Guidelines for Fresh and Marine Water Quality
Assigned Level	means a noise level determined under regulation 8, of the <i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
AS 4156.6-2000	means the Australian Standard AS 4156. <i>Coal preparation, Part 6: Determination of Dust/moisture Relationship to coal.</i>
Category/Categories	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Clean Fill	as defined by the <i>Landfill Waste Classification and Waste Definitions 1996 (as amended April 2018)</i>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DEM	the dust extinction moisture which is the moisture content expressed as a percentage of the product at which the Dust Number is 10 derived from the Australian Standard <i>AS4156.6-2000: Coal preparation, Part 6: Determination of Dust/moisture Relationship for Coal</i> , or alternative approved standard as approved by the CEO.
DWER	Department of Water and Environmental Regulation

EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	the Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Southern Ports Authority
mAHD	metres Australian Height Datum
Moisture Content	<p>means the ratio of the mass of water in a sample to the mass of solids in the sample, expressed as a percentage. In equation form this is set out as follows:</p> $w = \frac{m_1 - m_2}{m_1} \times 100$ <p>Where: w = moisture content of sample; m₁ = initial mass, in grams, of the test portion; and m₂ = mass, in grams, of the test portion after drying.</p>
mtpa	million tonnes per annum
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
PM	Particulate Matter
PM ₁₀	used to describe particulate matter that is smaller than 10 microns (µm) in diameter.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
PA Act	<i>Port Authority Act 1999</i>
Risk Event	as described in Guidance Statement: Risk Assessment
Trial	means a test period during which the Licence Holder loads or unloads a new bulk granular material, not currently specified in the Existing Licence, including Amendment Notices 1 to 5 at the Premises, in accordance with Conditions 29 to 33 of this Amendment Notice.
µg/L	micrograms per litre

Interpretation

In this Amendment Notice:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a Condition, each row in a table constitutes a separate Condition;
- (d) any reference to an Australian or other standard, guideline or code of practice in this Amendment Notice means the version of the standard, guideline or code of practice in force at the time of granting of this Amendment Notice and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Amendment Notice; and
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Existing Licence (L6744/1996/12) issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

The following guidance statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Setting Conditions* (October 2015)
- *Guidance Statement: Decision Making* (February 2017)
- *Guidance Statement: Risk Assessment* (February 2017)

Amendment description

This Amendment Notice pertains to an application received by the Department of Water and Environmental Regulation (DWER) on 27 November 2018 for the construction of a 50,000 tonne capacity shed for the storage of spodumene concentrate at Berth 8 of the Port of Bunbury (the Premises). The Premises is operated by Southern Ports Authority (Licence Holder) which holds the *Environmental Protection Act 1986* Part V Licence allowing the handling of bulk granular materials under prescribed Category 58 as defined in Schedule 1 to the *Environmental Protection Regulations 1987* (EP Regulations).

The handling and transport of spodumene concentrate is currently authorised at the Premises with storage within a multi-user shed. The current activity of transporting spodumene concentrate using existing out loading infrastructure at Berth 8 will be reassessed through DWER's full risk-based review of the Premises and is not assessed through this Amendment Notice. This Amendment Notice assesses the potential emissions and discharges associated with the construction of the storage shed and the storage, loading and unloading activities of spodumene concentrate occurring at the new storage shed.

This Amendment Notice also includes a DWER initiated amendment to incorporate Trial conditions to the Existing Licence, which allows Southern Ports Authority to handle new bulk granular materials not currently handled at the Premises, in a test scenario. Port Authorities are increasingly diversifying the type of materials handled at their premises. Trial conditions are intended to provide operational flexibility for ports and minimise impacts to economic growth where it can be demonstrated that any risk to public health, amenity and the environment is minimised to an acceptable level. Prior to a Trial, the Licence Holder must undertake a preliminary assessment, or 'self-assess' the appropriateness of their proposed Trial in accordance with conditions of the Licence and the *Guideline: Port Authority bulk handling Trials – Category 58 and 58A* published on the Department's website.

To allow for Trial conditions to apply to evaporites including gypsum, salt and potash, Category 58A has also been applied to the Licence through this Amendment Notice.

There are no increases in the daily throughputs as a result of this Amendment Notice and the Licence Holder has not requested any other changes to the aspects of the Existing Licence relating to Category 58.

Storage shed location

The Licence Holder is a Port Authority established by section 4 of the *Port Authorities Act 1999* (PA Act). The land upon which the storage shed is situated is within port operated land under the PA Act and is connected to the multi-user Berth 8. Therefore, the Delegated Officer has determined that Southern Ports Authority is the appropriate Licence Holder.

Talison Lithium Australia Limited (Talison) will operate out of the new storage shed located

within the Premises boundary to store spodumene concentrate received from their Greenbushes mine site. The area of land proposed for the new storage shed was originally formed by the dredging and reclamation of land from Vittoria Bay and holds several other storage sheds of various bulk granular materials. The construction area is expected to be 106 m by 61 m with a total nominated area of 6,466 m² and there are no changes to the Existing Licence Prescribed Premises boundary as a result of this Amendment Notice.

Groundwater levels at the shed site have been determined to be 1.43 mAHD and a dewatering licence has been issued for the construction of the new storage shed in accordance with the *Rights in Water and Irrigation Act 1914*.

Infrastructure and equipment

The proposed infrastructure and equipment associated with the storage, loading and unloading of spodumene concentrate at the new storage shed are shown below:

- Partially enclosed shed and in-loading annex
- Underground inlet feed and grizzly
- Underground inlet hopper and feeder
- Transfer chute and skirts.
- High lift conveyor
- Tripper conveyor
- Front end loaders
- Out-load hopper and feeder
- Out-loading transfer chute and skirts
- Out-loading conveyor
- Transfer Station
- Drains and underground sump for water collection and later removal by a sucker truck

Spodumene concentrate is already authorised at the Premises and there are no changes to the daily throughputs as a result of this Amendment Notice therefore, the emissions and discharges associated with the existing out-loading infrastructure at the Premises will not be reassessed. Infrastructure excluded from assessment under this Amendment Notice are shown below:

- Enclosed conveyor (CV06)
- Ship loader, cascading chute/telescopic chute
- Berth 8
- Waste water catchment system and retention basin

Operational aspects

Spodumene concentrate will be transported via trucks entering through a partially enclosed annex and rear tipping the spodumene concentrate onto a vibrating grizzly (grate) feeding into a below ground hopper. The concentrate will be conveyed via the feeder onto a high lift conveyor and to an overhead tripper conveyor system that distributes the concentrate to form a stockpile within the partially enclosed storage shed.

An underground sump below the storage shed will capture wastewater draining from floor drains within the storage shed. The water will be removed from the sump as required by sucker trucks. Pipework will be attached to the shed to redirect stormwater to the retention basin.

The outload circuit consists of two front end loaders (FELs) that load spodumene concentrate into a hopper feeding to the out loading conveyor which connects to the existing conveyor system (CV06) directed to the ship loader out to Berth 8.

A site inspection at the Premises on the 20 November 2018 noted that civil works were near completion.

The bulk material flow chart and associated equipment is provided below in Figure 1.

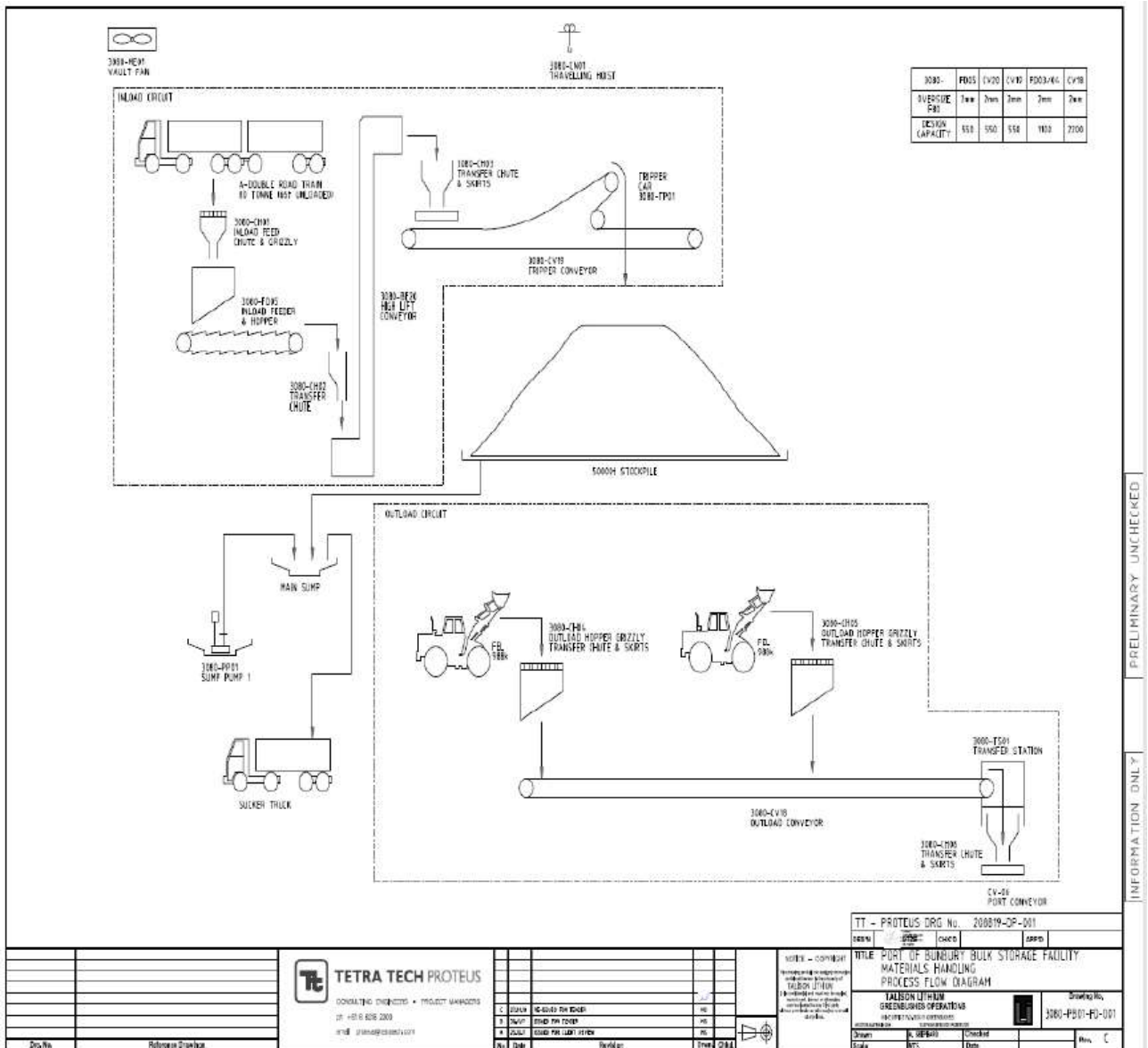


Figure 1: Bulk material handling flow chart and associated infrastructure

Product characteristics

Spodumene concentrate consists of approximately 75% spodumene 17% quartz (silica), and 7% feldspars (SDS 2014). The spodumene concentrate is processed at the mine using a de-slime and screening process to remove fines (GHD Report 2018). Particle size distribution was analysed from multiple samples with tests identifying 80% of the material greater than 150 µm (Jenike & Johanson 2018) and with alternate test identifying 90% above 250 µm (SDS 2014). The Licence Holder predicts the portion of particulates less than 10 µm to be 0.5% (GHD 2018). However, there is no data to support this assumption. This assessment has conservatively assessed that the proportion of particles less than 10 µm to be 10% based on uncertainty in supporting information submitted with the application.

Crystalline silica in its respirable fraction is a listed carcinogen by the International Agency for Research on Cancer (IARC). Assuming even distribution of the product’s components in relation to particle size, this assessment also conservatively assumes that respirable

crystalline silica makes up approximately 1.7% of the product.

Laboratory analysis of the spodumene concentrate determined the Dust Extinction Moisture (DEM) of 2.8% using Australian Standard AS4156.6-2000: *Coal preparation - Determination of dust/moisture relationship for coal* (Jenike & Johanson 2018). Spodumene concentrate received at the new storage shed is expected to have a moisture content between 6 and 8%.

The pegmatite mined at the Greenbushes operation can be associated with tantalum and tantalites that often comprise of naturally occurring radioactive materials. Global Advanced Metals recover these materials as a viable commodity from the pegmatite ore (GHD 2018). Talison has not provided laboratory analysis of the radiological component to the spodumene concentrate although it is assumed that the levels will be less than 0.07 Bq/g (GHD 2018) as a result of the tantalum recovery process. As a non-placarded product that is handled 1.2 km from the nearest receptor the Delegated Officer does not anticipate any community exposure to radioactive materials and therefore no further assessment is made in relation to this hazard.

Water and sediment quality monitoring

Water and sediment quality monitoring at the Premises occurs bi-annually reported for the months of June and December each year. The water and sediment monitoring network consists of 14 monitoring sites located within the Preston River, Vittoria Bay, Leschenault Inlet and includes the waste water catchment system (WWC system) and retention basin within the Premises boundary shown Figure 2.



Paper Size: A3
 0 50 100 200 300 400
 Metres
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1984
 Grid: GDA 1984 UTM Zone 52

LEGEND

- Monitoring Sites
- Stormwater drainage design
- Cadastral

GHD SOUTHERN PORTS AUTHORITY
 SLIP ENABLER

Southern Ports - Bunbury
 Surface Water and Sediment
 Quality Monitoring

Job Number: 61-36614
 Revision: 0
 Date: 2 Aug 2018

Monitoring Sites **Figure 3**

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Figure 2: Water and sediment monitoring locations.

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IR-T08 Amendment Notice (Major) template v2.0 (July 2017)

Parameters tested in water and sediment quality monitoring that are applicable to this Amendment Notice are lithium and hydrocarbons.

The 2018 Bi-annual Water and Sediments Monitoring Report (June) indicated that lithium concentrations located within the Preston River, Vittoria Bay, Leschenault Inlet, and the Inner Harbour ranged between 0.005 to 0.181 mg/L, similar to that found in seawater (approximately 0.17 mg/L). The WWC system and the retention basin also had lithium concentrations in water similar to the receiving surface waters (0.008 to 0.154 mg/L).

All sediment samples collected in the receiving environment measured concentrations of lithium ranging between 0.3 and 5.4 mg/kg. However, concentrations of lithium in sediment within the WWC drain (PR14, 15 and 16) ranged between 18.8 and 55.2 mg/kg and between 1.9 and 37.2 mg/kg in the retention basin (PR11, 12 and 13).

Total Recoverable Hydrocarbons (TRH) were below the limit of reporting in all sampling locations at the receiving surface water bodies (Leschenault Inlet, Inner Harbour, Vittoria Bay and Preston River). The WWC system and retention basin have low concentrations of TRH not greater than 250 µg/L.

Noise modelling

During operations the storage shed will result in 25 trucks per day equating to a 6% increase in truck volumes entering and exiting the Premises (GHD Report 2018). The Licence Holder conducted noise modelling for operations at the shed to represent worst case noise exposure received at the sensitive receptors to determine the impact of an additional noise source. Results were based on the majority of the equipment operating continuously and simultaneously indoors with power levels provided in Table 2.

Table 2: Sound power levels for equipment and inventory

Equipment	Sound Power Level (dBA)	Location
Road trains	105	Outdoor
In load feed chute and grizzly feeder	99	Indoor
In load hopper and feeder	90	Indoor
High lift conveyer	91	Indoor
Tripper conveyer	98	Indoor
FELs x 2	113	Indoor
Out loading hopper and feeder	90	Indoor
Out load conveyer	98	Indoor

The noise levels received at the nearest sensitive receptors were assessed to determine if the noise emissions generated from spodumene handling at the proposed shed will significantly contribute to existing night time L_{A10} noise levels.

Table 3 below shows results from the noise modelling identifying the predicted noise levels at sensitive receptors. All predicted night L_{A10} noise levels at receptors from isolated spodumene activities (non-cumulative) are at least 5dB below the assigned night L_{A10} noise levels and are

not expected to significantly contribute¹ to the cumulative noise levels at receptors. Noise modelling was not provided for construction activities.

Table 3: Predicted night and assigned LA₁₀ noise levels

ID	Noise sensitive receptors	Predicted night LA ₁₀ noise level	Night LA ₁₀ assigned noise level ¹
RRL1	Caravan Park on Koombana Drive	25	32
RRL2	Stirling Street, midway along waterfront section	26	30
RRL3	Oliver Street, midway along street	31	41
RRL4	Venn/Burt St, near intersection	28	30
RRL5	Pickworth Retreat, north west corner near Pelican Point	26	30
R1	Cloughton Way approximately midway point	27	39
R2	Kendle Close, south west corner	28	30
R3	Gleneagles Way, approximately midway point	26	30
R4	Ince Road approximately midway point	25	37
R5	Moorland Avenue, near intersection with Australind Bypass	29	39
R6	Austral Parade, near King Street	29	32
R7	Cantwell Court near north west corner	31	40
R8	Caravan Park on Koombana Drive north east corner	25	36

Note 1: Noise levels have had 5dB removed to determine significance of contribution to the cumulative noise from the Port of Bunbury.

Amendment history

Table 4 provides the amendment history for L6744/1996/12 since 2015.

Table 4: Licence amendments

Instrument	Issued	Amendment
L6744/1996/12	15/05/2018	Amendment Notice 5: authorised the ongoing shipment of alumina hydrate (150,000 tonnes per annual period) at Berth 8.
	18/12/2017	Amendment Notice 4: authorised the loading of 100,000 tonnes of alumina hydrate in a one off shipment only.
	07/07/2017	Amendment Notice 3: authorise the bulk loading of 1.2 million tonnes per annum of bauxite ore from Berth 8.
	15/12/2016	Amendment Notice 2: Extension granted for the use of mobile ship loading equipment for the export of mineral sands from Berth 5.

¹ Noise levels that exceed a value that is 5 dB below the assigned noise level are determined to significantly contribute to noise exceedances at noise sensitive receptors in accordance with the Noise Regulations.

	28/09/2016	Amendment Notice 1: approval for the use of mobile ship loading equipment at Berth 5.
	29/04/2016	Amendment Notice to extend expiry date to 29 September 2031
	25/09/2015	Licence reissue

Location and receptors

Table 5 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 5: Sensitive Receptors and distance from storage shed location

Sensitive premises	Distance from the storage shed location
Residential receptor (zoned residential)	1.2 km directly south of the storage shed.
Industrial receptor (zoned industrial)	930 m north east from the storage shed.
Preston River (Conservation category river that feeds into Vittoria Bay)	260 m south east from the storage shed.
Vittoria Bay (High conservation value estuary)	650 m north east from the storage shed
Inner Harbour	190 m directly south of the storage shed
Threatened ecological communities – vulnerable salt marsh Vittoria Bay	600 m north east from storage shed.
Threatened fauna – migratory birds	Sighted 780 m north from the storage shed.

Risk assessment

Tables 6 and 7 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 6: Risk assessment for proposed amendments during construction

Risk Event								
Source/ Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts	Consequence rating	Likelihood rating	Risk	Reasoning
Category 58: Vehicles, plant and equipment associated with construction activities including vehicle movements on unsealed roads	Dust: Emissions of fugitive dust and particulates associated with construction activities	Residential premise 1.2 km directly south of the storage shed. Industrial premise 930m north east from the storage shed.	Wind speed and direction can change the level of dust generated.	Human health – respiratory impacts. Amenity impacts	Slight	Rare	Low	Remaining construction activities do not involve earthworks or significant dust generating activities. Dust monitoring will be conducted in accordance with Existing Licence conditions 17, 18.
	Noise: noise emissions generated from construction activities.		Air (windborne): temperature inversions, wind speed and direction can change the level of impacts from noise to receptors.	Impacts to human well-being and comfort.	Moderate	Unlikely	Medium	Based on the 2017 Cumulative Noise Report (SVT 2017), construction activities at Berth 8 have the potential to significantly contribute to assigned noise level exceedances. The Licence Holder proposes to maintain plant equipment and machinery such that noise emissions are minimised. However, no further controls for noise have been proposed.

Table 7: Risk assessment for proposed amendments during operation

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Category 58: In-loading and out loading of spodumene concentrate. Storage of spodumene concentrate.	Dust: Emissions of fugitive dust and particulates during unloading and or loading of spodumene concentrate.	Residential premise 1.2km directly south of the storage shed.	Wind speed and direction can change the level of dust generated.	Human health – respiratory impacts. Amenity impacts	Moderate	Unlikely	Medium	Refer to dust risk assessment below.
	Noise: noise emissions generated from additional truck movements and operation of infrastructure associated with loading and unloading spodumene concentrate.	Industrial premise 930m north east from the storage shed.	Air (windborne): temperature inversions, wind speed and direction can change the level of impacts from noise to receptors.	Impacts to human well-being and comfort.	Slight	Unlikely	Low	Operational noise is not expected to significantly contribute to the cumulative noise level from the Premises. The majority of equipment will be operated indoors. Predicted noise levels will be at least 5 dB below the night time Assigned Levels at all nearby noise sensitive receptors.
	Wastewater: Contaminated wastewater and stormwater from loading and unloading of spodumene concentrate.	Preston River, Leschenault Inlet and Inner Harbour.	Direct discharge of leachates into the retention basin and seepage to nearby surface waters.	Eco-toxicity to surface water ecosystems due to changes in water quality. Seepage to groundwater that can later be expressed in the marine/estuarine environment	Slight	Rare	Low	Lithium concentrations in ambient surface waters are similar to retention basin and WWC system. No water and sediment quality criteria is available for lithium provided for in the ANZECC guidelines. Increased throughputs are not proposed. There will be similar numbers of vehicle movements. Stormwater/wash waters generated around the shed will continue to be managed through existing infrastructure. Therefore concentrations of lithium and hydrocarbons in surface waters is not expected to increase.

Risk Event – Dust (Operations)

Dust generated from spodumene handling activities associated with the operations at the storage shed could potentially contribute to the concentration of airborne particulate matter at receptors. The respirable fraction expressed as PM₁₀ (less than 10 microns) is a known health hazard from long and sustained exposure. The spodumene concentrate delivered to the Premises is dependent on mine site preparation processes to remove and or recover PM₁₀. Based on the proposed handling methods (within a partially enclosed shed) and the assumption that PM₁₀ accounts for 10% of the product and respirable crystalline silica makes up 1.7%, the Delegated Officer has assessed the consequence as **moderate** as offsite impacts at a local scale may be low level.

The spodumene concentrate is expected to be received at the Premises with a moisture content of 6-8% and well above the DEM level of 2.8% (Jenike & Johansen, 2018). In addition, the Licence Holder proposes to install skirts to minimise spillage and handle the spodumene concentrate within a partially enclosed shed, protecting the product from wind flows. Therefore it is **unlikely** that spodumene handling will generate dust that will have adverse impacts on the sensitive receptors located at least 1.2 km from handling activities.

The Delegated Officer has determined the overall risk of dust during operations as **Medium**.

Decision

DWER is currently undertaking a detailed risk review of the Licence to align the Licence with the risk based Regulatory Framework. Where appropriate, the full risk-based review will incorporate the below amendments, as well as those provided in Amendment Notice 1 to 5 (inclusive), into the Licence review.

Spodumene concentrate shed

The Delegated Officer has determined to authorise the construction and operation of the new spodumene storage shed at the Premises subject to conditions. Construction specifications have been applied to ensure that the spodumene shed is constructed in accordance with the application, where commitments represent controls for emissions and discharges.

The Delegated Officer has determined dust generated from the remaining construction activities presents a low risk to sensitive receptors and not requiring additional conditions. Similarly, and in accordance with the *Guidance Statement: Setting Conditions*, no conditions have been applied in relation to noise or wastewater management during operations due to the low risks as assessed through Table 7.

Conditions have been applied through this Amendment Notice to reduce the risks associated with noise during construction and fugitive dust during operations.

To address uncertainties in noise generated during construction, activities will be limited to daylight hours consistent with the assigned noise levels provided for in the *Environmental Protection (Noise) Regulations 1997*.

The operational activities at the new storage shed are not expected to result in increases to the daily throughputs at the Premises. However, dust risks associated with spodumene handling at the new shed location have been considered. Consistent with existing Licence Holder controls, and to ensure that dust risks from handling spodumene concentrate at the Premises remain at acceptable levels, the spodumene concentrate must have a moisture content maintained above the DEM level.

Trial Conditions

The Delegated Officer has determined that Trial conditions are both conservative and necessary to provide operational flexibility for the Licence Holder and better informing future risk assessments of ongoing handling operations. Trial shipments must not extend beyond 12

months in duration or a cumulative throughput of 1 Mtpa per year. Trial shipment conditions are designed to provide sufficient information, through requiring the provision of monitoring data, for DWER to conduct a detailed risk assessment of each trialed product.

Trial conditions on this Amendment Notice restrict the handling of high-risk products such as those that contain elevated concentrations of asbestiform materials, respirable silica or radiation. Wastes, or waste-derived products, with the exception of clean fill, are also not authorised for handling under Trial conditions. The implementation of Trial conditions requires notification 30 days prior to the commencement of the Trial. Notification must be supported by detailed information on the proposed activity, product characteristics, the sensitivity of the receiving environment, potential hazards and the proposed monitoring to be conducted during the Trial.

At any point prior to or during the Trial period, DWER may cease the Trial in the event that the risk is considered to be unacceptable to public health, amenity or the environment; or in the event that the Trial (including product specifications, materials handling or controls) changes from that originally described through notification of the Trial. The Trial may also be ceased if DWER becomes aware of the potential for risk to human health, amenity of the environment that differs from the risks identified in the notification of the Trial.

Category 58A has been applied through this notice to authorise the handling and/or loading of new bulk materials classified as salts including evaporates such as gypsum and potash under Trial conditions. The Delegated Officer has determined that this is an administrative amendment that does not increase or change the risk profile associated with bulk material handling at the Premises. The addition of Trial conditions and Category 58A to the Licence does not authorise an increase to the maximum cumulative throughputs at the Premises.

It is the responsibility of the Licence Holder to determine appropriate handling methods for each product being trialed following demonstrated consideration given to each hazard associated with the trial product. DWER's decision making processes for determining what products are suitable for trial shipments are further detailed in the *Guideline: Port Authority Trial Shipments – Category 58 and 58A*, which is available at DWER's website (www.dwer.wa.gov.au).

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 8 February 2019. The Licence Holder waived the consultation period on 12 February 2019 subject to administrative errors to Condition 25 be amended.

Amendment

- The cover page of the Licence Classifications of Premises is amended by the addition of the Prescribed Premises category shown in underlined text below:

Environmental Protection Regulations 1987

CLASSIFICATION(S) OF PREMISES:

Category 58: Bulk Material loading or unloading: premises on which clinker, coal, ore, ore concentrate or any other bulk granular material (other than salt) is loaded onto or unloaded from a materials loading system.

Category 58A: Bulk material loading or unloading: premises on which salt is loaded onto or unloaded from vessels by an open materials loading system.

- Table 1 of the Licence is amended to include the Prescribed Premises Category shown in underlined text and by the deletion of strikethrough text shown below:

Table 1: Category under which the BPA Berth 8 is Prescribed.

Category Number	Category Name	Description	Category Production	Approved Premises production or design capacity
58	Bulk material loading or unloading.	Premises on which clinker, coal, ore, ore concentrate or any other bulk granular material is loaded onto or unloaded from vessels by an open materials loading system.	<u>100 tonnes or more per day</u>	<u>Not more than 75,000 tonnes per day.</u>
<u>58A</u>		<u>Premises on which salt is loaded onto or unloaded from vessels by an open materials loading system.</u>		

- Condition 22 of the Licence is amended by the addition of the underlined text below.
 - The Licence Holder must only accept alumina hydrate and spodumene concentrate that contains a Moisture Content above the DEM level derived from application of AS4156.6-2000.
- The Licence is amended by the insertion of Conditions 24 to 28 shown in underlined text below.

Spodumene storage shed construction

- The Licence Holder must construct and install and undertake the Works for the infrastructure and equipment:
 - specified in Column 1;
 - to the requirements specified in Column 2; and
 - at the location specified in Column 3,of Table 2 below.
- The Licence Holder must not depart from the requirements specified in Column 2 of Table 2 except:
 - where such departure does not increase risks to public health, public amenity or the environment; and

(b) all other Conditions in this Amendment Notice are still satisfied.

26 Where a departure from the requirements specified in Column 2 of Table 2 occurs, and is a type allowed by Condition 25, the Licence Holder must provide to the CEO a description of, and explanation for the departure.

Table 2: Infrastructure and equipment requirements

<u>Column 1</u>	<u>Column 2</u>	<u>Column 3</u>
<u>Infrastructure and Equipment</u>	<u>Requirements (design and construction)</u>	<u>Site plan reference</u>
<u>Construction of the spodumene storage shed.</u>	<p>The storage shed must be constructed:</p> <ul style="list-style-type: none"> • <u>such that all spodumene concentrate stockpiled within the shed will be protected from wind;</u> • <u>with a partially enclosed annex; and</u> • <u>with a below ground hopper and grizzly within the partially enclosed annex,</u> <p><u>for the purpose of reducing the exposure of the spodumene concentrate to the wind.</u></p> <hr/> <p><u>Covers and skirts must be installed at:</u></p> <ul style="list-style-type: none"> • <u>the in-loading grizzly; and</u> • <u>in-loading hoppers and transfer chutes,</u> <p><u>for the prevention of spillage and the risk of dust generated through the handling of spodumene concentrate at the shed.</u></p>	<u>Attachment 2, Figure 1</u>

27 The Licence Holder will only conduct construction activities for the spodumene storage shed during the hours between 0700 to 1900 hours Monday to Saturday and between 0900 to 1900 hours on Sundays and public holidays.

Reporting

28 The Licence Holder, within 30 days of completion of the Works specified in Column 1 of Table 2, must provide to the CEO a report with photographs confirming each item of infrastructure or component of infrastructure specified in Column 2 Table 2 has been constructed, installed to the requirements specified in Column 2 of Table 2.

5. The Licence is amended by the insertion of Trial Conditions as shown in underlined text below:

Trial conditions

Notification of a Trial

29 The Licence Holder must notify the CEO of a Trial and such notification (which the CEO will make publicly available) must:

- (a) be in writing;
- (b) be made 30 calendar days or more prior to that Trial commencing;
- (c) include details of the extent of the Trial, including:

- (i) the duration and frequency of any loading or unloading activities;
- (ii) method for materials storage and handling including any changes to infrastructure and equipment used at the Premises; and
- (iii) all controls to be implemented for the management of emissions and discharges;
- (d) include details of the nature of bulk granular material, including:
 - (i) all public health and ecosystem hazards;
 - (ii) the chemical and geochemical composition;
 - (iii) particle size distribution of bulk granular material including inhalable and respirable fractions;
 - (iv) the representative DEM level, where determination of DEM is possible for that material; and
 - (v) leachate testing conducted on materials that may present a toxicological or Eco toxicological risk;
- (e) include an analysis of risks to the environment, public health and amenity from potential discharges, dust, odour and noise emissions associated with the Trial;
- (f) include a monitoring plan that includes, but is not limited to:
 - (i) the indicator parameter/s to be monitored;
 - (ii) monitoring locations, equipment used and proximity to sensitive receptors;
 - (iii) monitoring frequencies;
 - (iv) monitoring averaging periods; and
 - (v) any meteorological monitoring to be undertaken; and
- (g) only when a CEO notification to cease a Trial has been issued in accordance with Condition 30, and in the event that the Licence Holder is submitting a Trial amendment notification, then the Licence Holder must:
 - (i) resubmit the requirements of Conditions 29(a) – (f);
 - (ii) address the issues that resulted in the notification to cease the Trial on the initial (or any subsequent) Trial for the same product; and
 - (iii) include a new Trial end date calculated 12 months from the commencement of the first shipment of the ceased Trial, not including time elapsed between the CEO notification to cease that Trial and the Trial amendment notification.

CEO notification to cease a Trial (prior to commencement or during)

30 The Licence Holder must cease a Trial in the manner and at the time, when:

- (a) the CEO forms the view, acting reasonably:
 - (i) that following an assessment of the information provided as part of Condition 29, it is determined that the proposed Trial will result in unacceptable impact on public health, amenity or the environment;
or

- (ii) that following a review of any data received in accordance with Condition 33, it is determined that the Trial is having an unacceptable impact on public health, amenity or the environment;
or
 - (iii) that the Trial being undertaken is different in any manner from that described in the notification provided by the Licence Holder through Condition 29, when that difference is resulting in, or is likely to result in, an unacceptable impact on public health, amenity or the environment; and
- (b) the CEO has provided written notice to cease the Trial (which the CEO will make publicly available) to the Licence Holder specifying the grounds for the CEO's views.

Nothing in this Condition prevents the Licence Holder subsequently submitting an amendment in relation to the Trial. Any Trial amendment proposed by the Licence Holder must follow the notification requirements as per Condition 29(g).

Trial Restrictions

31 The Trial must cease:

- (a) 12 months from the date of the commencement of the first shipment; or
- (b) immediately after the shipment where the cumulative throughput amounts exceed 1,000,000 tonnes; or
- (c) immediately upon receipt of a CEO notification to cease a Trial in accordance with Condition 30,

whichever occurs first.

A Trial may only recommence upon notification of a Trial amendment, in accordance with Condition 29(g).

32 The Licence Holder must not Trial the bulk handling of materials that:

- (a) Contain asbestos in concentrations equal to or greater than 0.01% w/w for non-friable asbestos or 0.01% w/w for fibrous asbestos;
- (b) Contain respirable silica equal to or greater than 1% w/w;
- (c) Exceed the radiation transport limit of 10 Bq/g for Uranium-238 and Thorium-232 combined;
- (d) Exceed Rubidium-87 concentrations of 30 Bq/g; or
- (e) Are a waste or waste-derived by-product (except Clean fill).

Reporting

33 The Licence Holder must submit a report to the CEO which includes the results of monitoring required by condition 29(f), and includes:

- (a) the 15-minute averaged, raw data in tabulated format;
- (b) a graphical representation of the monitoring results for each Trial shipment with a comparison against 15-minute averaged meteorological (wind speed and direction) monitoring data;
- (c) Moisture Content data averaged over each Trial shipment and showing a comparison against the representative DEM level, where the DEM level can be determined; and

(d) a summary of the effectiveness of the controls implemented for the management of emissions and discharges,

within 30 days of the completion of the first Trial shipment; at four, seven and 10 months from the first Trial shipment; and a final closeout report within 30 days following the cessation of the Trial.

Ongoing shipments

34 In the event that approval for the ongoing shipments of the Trial material is sought, the Licence Holder must provide an application for Licence amendment, along with a report fulfilling the requirements of Condition 33, at least three months prior to the completion of the Trial period.

4. Definitions of the Licence is amended by the insertion of the underlined definitions shown below:

'Clean fill' As defined by the *Landfill Waste Classification and Waste Definitions 1996 (as amended April 2018)*.

Works refers to the Works described in Schedule 2, at the location in Schedule 1 of this Amendment Notice to be carried out at the Premises, subject to conditions.

'Trial' means a test period during which the Licence Holder loads or unloads a new bulk granular material, not specified in the Existing Licence including Amendment Notices 1 to 5 at the Premises, in accordance with Conditions 29 to 34 inclusive.

Attachment 2 of the Licence is amended and replaced with the figure and underlined text below.

Attachment 2: Plan of Premises

The Plan of Premises below depicts the location of the spodumene concentrate storage shed outlined (in red) in the Berth 8 road hopper and CV04. The blue lines outlines the wastewater capture system. The yellow lines depicts the Premises Boundary.

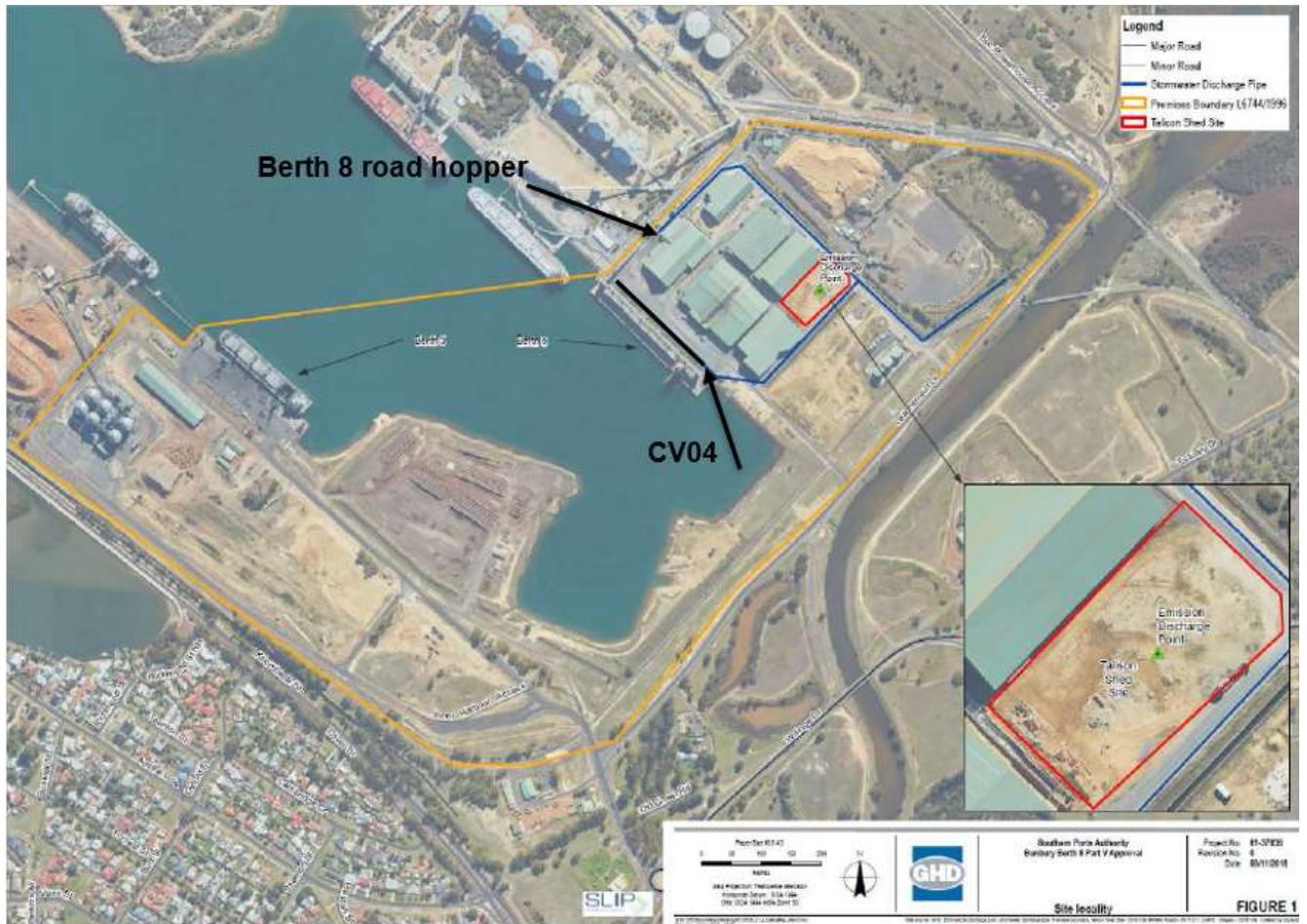


Figure 1: Storage shed location within the premises boundary

Licence: L6744/1996/12

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L6744/1996/12 – Southern Ports Authority – Bunbury Port Berth 5 & 8.		accessed at www.dwer.wa.gov.au
2	GHD Email communications response to request further information received 14 December 2018.	GHD 2018	DWER records (A1749040)
3	GHD Report – Southern Ports Authority Bunbury Berth 8 Part V Approval Bulk Storage Facility Port of Bunbury November 2018.	GHD Report 2018	DWER records (A1750133)
4	Jenike and Johanson Dust Extinction Moisture test results on Spodumene SC6.0, commissioned by Talison Lithium Pty Ltd. October 2018.	Jenike & Johanson 2018	DWER records (A1750128)
5	Talison Lithium Australia Pty Ltd Spodumene Concentrate SDS. April 2014.	SDS 2014	DWER records (A1750127)
6	Southern Ports Authority – Port of Bunbury, Water and sediment quality bi-annual monitoring June 2018.		DWER records (A1749039)
7	SVT Engineering Consultants: 2017 Update to the Cumulative Noise Model of Bunbury Port (Rpt01-1401052-Rev0) – Southern Ports Authority (16 March 2017).	SVT 2017	DWER records (A1444824)
8	ANZECC guidelines (2000) – Australian New Zealand Guidelines for Fresh and Marine Water Quality.	ANZECC	accessed at http://www.waterquality.gov.au/anz-guidelines
9	International Agency for Research on Cancer. World Health Organisation.	IARC	Accessed at https://www.iarc.fr/cards_page/iarc-research/
10	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	accessed at www.dwer.wa.gov.au	
11	DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.		
12	DER, February 2017. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.		
13	DER, February 2017. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.		