Amendment Report

Application for Licence Amendment

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

Choose an item.	L8194/2007/3
Applicant	Fortescue Metals Group Ltd
ACN	002 594 872
File number	DER2013/001082-1
Premises	Anderson Point Materials Handling Facility Part of Lot 1497 on Plan 404497, Part of Lot 370 on Plan 35619, Part of Lot 556 on Plan 60836, Part of Lot 321 on Plan 74344 and Lot 322 on Plan 74344 PORT HEDLAND WA 6721 within coordinates defined in Schedule 1
Date of report	11 November 2022
Decision	Licence granted

Michael Greenslade

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Date: 2022.11.11 13:27:51 +08'00'

MANAGER, PROCESS INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the operation of the premises. As a result of this assessment, licence L8194/2007/3 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary and overview of premises

The Existing Licence, issued 2 September 2021, authorises the handling of up to 210 million tonnes per annum (Mtpa) which includes up to 188 Mtpa of hematite and up to 22 Mtpa of magnetite ore. Hematite ore is brought to the premises via trains from Fortescue's various mining operations with magnetite ore to be brought to Port Hedland via the Iron Bridge Concentrate Handling Facility (CHF), which is authorised for construction under Part V works approval W6394/2020/1. Once constructed, magnetite ore will be received via pipeline as a slurry and dewatered at the adjacent CHF before being delivered to the premises on conveyor.

First ore from the CHF is anticipated around the end of 2022. In the meantime, the Licence Holder is seeking amendments to allow increased hematite loading and the construction of infrastructure that would support greater throughputs.

2.2.1 Application summary

On 4 May 2022, Fortescue Metals Group Ltd (the Licence Holder) submitted an application (the Application) to the department to amend Licence L8194/2007/3 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The Application relates to the removal of throughput restrictions to the handling of hematite ore at the Anderson Point Materials Handling Facility (the premises) and further works to improve ore handling efficiencies and capabilities.

The Licence Holder is also seeking for the following amendments to the Existing Licence:

- Shiploading infrastructure at AP5 (fourth shiploader) to increase hematite handling capacity.
- Construction and operation of a new shuttle conveyor SH 953 at AP5.
- Construction and operation of a new transfer station TS 302 which will connect CV 302 with CV 902, CV 903, CV 908 and CV 909.
- Tie in of CV 908 with CV 901 and TS 901 (CV 908 has been constructed).
- Proposed extension to existing transfer station TS901 to join CV 908 and CV 909.
- Construction and operation of 3 new additional high pressure-low volume belt wash stations on:
    - CV918 – conveyor that allows stacking on along Canyon G approximately 2km in length;
    - CV927 – approximately 1km long conveyor along the AP1-3 wharfs (closest conveyor to receptors); and

- CV932 – outloading conveyor running along AP4-5 berths and approximately 675m in length.

- Potential to install an additional three optional belt wash stations on in-loading conveyors CV901, CV905 and CV906, located in the (approximately) 1 km between the train unloaders and the premises stockyard.
- Construction and operation of new bulk ore conditioning sprayers (BOC sprays) on conveyors within the inload and outload circuit. The Licence Holder has advised that the location of these controls will be determined following investigation of where the BOC sprays will have greatest dust control. An initial three BOC sprays has been proposed in support of the Application.
- The flexibility to apply additional dust controls including ore conditioning sprays and belt cleaning infrastructure where the need is identified.
- Construction and operation of Moisture Reduction System (MRS) trial at Canyon G, with possible expansion to multiple stockyard canyons, to extract water from magnetite product in order to maintain transportable moisture limit (TML) below 10.5%.
- Proposed progressive replacement of noise rollers on outload circuit at the shiploading berths.
- Additional stormwater discharge location for Train Unloader 2 (TUL2) and update to water recovery system from TUL facilities.
- Change in the requirement of Dust Extinction Moisture (DEM) compliance of iron ore outload and alignment with other operators at the port.
- Construction and operation of a new desalination plant to replace the existing desalination plant at the port.

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 70 (screening for rail ballast) have been requested by the Licence Holder.

Table 1: Proposed throughput capacity changes

Category	Current throughput capacity	Proposed throughput capacity
58 – bulk material loading or unloading	Up to: • 210 Mtpa iron ore (cumulative) • 188 Mtpa hematite iron ore • 22 Mtpa magnetite iron ore	Up to: • 210 Mtpa iron ore (cumulative) ***No overall change to cumulative throughput*** • 210 Mtpa hematite and/or magnetite iron ore
70 – screening of material	Up to 45,000 tonnes per annual period	No change

2.2.2 Moisture Reduction System

Magnetite from the CHF will primarily be stockpiled in Canyon G prior to shiploading, with other canyons potentially being used for magnetite stockpiling at later dates. The magnetite concentrate processed through the CHF is expected to arrive at the premises with a moisture content of approximately 10%. This is close to the transportable moisture limit of 10.5% making it difficult to ensure safe shipping.

The current dust extinction moisture (DEM) level of magnetite from the Iron Bridge Magnetite

Project (mine) is 3.5%, well below the 10% moisture content of the ore as it arrives to the premises. While the DEM level may change over time as ore is progressively extracted from the ore body, significant increase in measured DEM level is not anticipated.

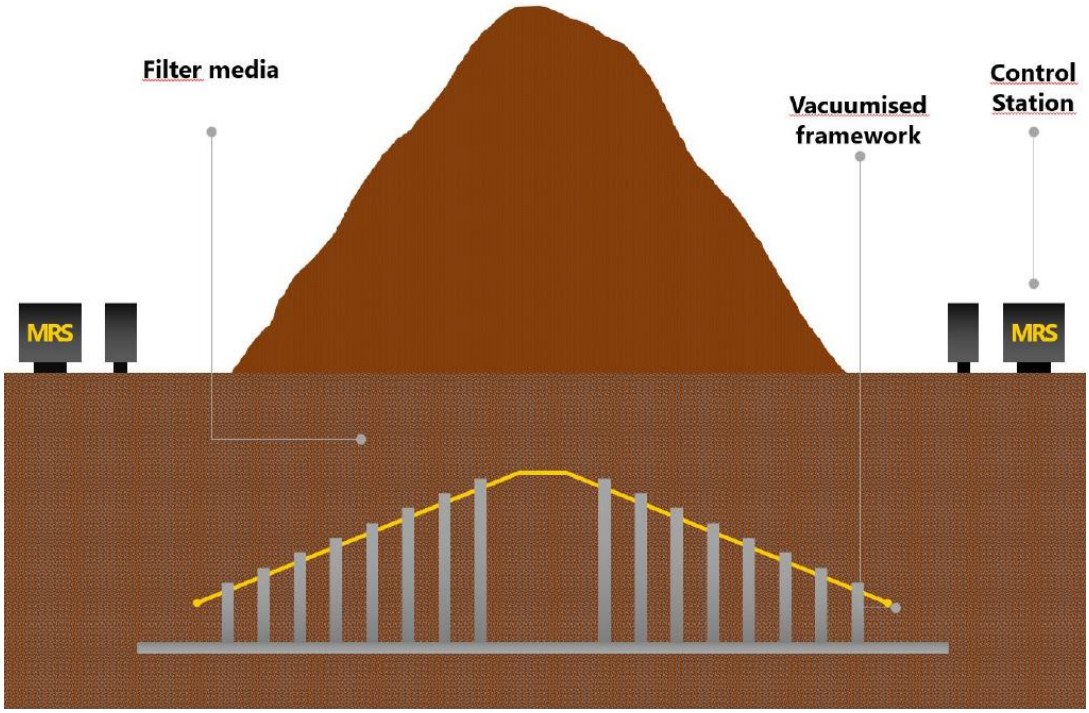

Figure 1: Conceptual design of the Moisture Reduction System beneath stockyard canyons (Fortescue, 2022)

Construction

The Licence Holder is planning to construct the Moisture Reduction System, initially over a single stockpile footprint (300m x 50m) in Canyon G. Construction of the Moisture Reduction System will involve preparation of the stockpile area through excavation of the existing stockyard base to install a filter media of sand and aggregate base that allows water to freely drain to vacuumised drains to remove seepage water.

Operation

The water will be extracted through the Moisture Reduction System at a rate of approximately 100-200 L/second. Collected water will be discharged to the surface water drain adjacent to the stockpile which forms part of the surface water management on site and/or will be returned to the CHF for use. The surface water drain has adequate capacity (1,500 L/second) to contain the water discharged from the Moisture Reduction System and stormwater for all magnetite stockpiled and drained. Sediment-laden water collected in the Sedimentation Basin will settle out prior to discharge to the South West Creek.

The Licence Holder commits to continued use of water cannons on all stockpiled ore to ensure the ore surface moisture is maintained and dust from wind erosion is minimised.

2.2.3 Stormwater discharge points

An additional stormwater discharge point from TUL2 is required in the event of heavy rain from a cyclone or tropical low. The proposed discharge point will take water from TUL2 into a diversion drainage channel that connects with the existing stormwater surface drainage network at the MHF (FMG, 2022a).

Stormwater management at TUL2 is separate to the management of water collected through

the Moisture Reduction System discussed in section 2.2.2.

2.2.4 Beyond scope

The proposed replacement of the existing desalination plant with an increased output of treated water (from 4 megalitres per day (ML/day) to 5.4 ML/day, maximum 1.971 GL/year) will support the water requirements of additional dust control infrastructure. The proposed infrastructure does not trigger thresholds specified in Schedule 1 of the *Environmental Protection Regulations 1987*, Category 54A – Water desalination (10 GL or more per year). Therefore construction of the replacement desalination plant does not require Part V approval. The reference to a desalination plant and emission point does not require amendment as a consequence of this application.

2.3 Recent Part V compliance

2.3.1 Staged throughput increases

The Existing Licence authorises throughputs of hematite up to 188 Mtpa based on a staged approach that requires additional dust controls (belt wash stations/BWS) prior to increasing throughputs. On 2 December 2021, the Licence Holder confirmed compliance with conditions of the Existing Licence for authorisation to handle up to 188 Mtpa of hematite ore (DWER records: DER2013/001082-1~9).

Authorisation of incremental throughput increases was predicated on the effectiveness of proposed dust controls as assumed in the dust model attached to the 2019 Application. For conveyors an assumed reduction in dust emissions of 75% was expected to be achieved from installing a BWS on each conveyor associated with the staged throughput increase.

Due to significant uncertainty with modelling, the previous licence amendment required validation of the installed dust controls and their effectiveness using standardised validation monitoring. In the event that BWS were found not to have the dust control effectiveness assumed through modelling, conditions of the Existing Licence require the Licence Holder to install further dust controls (BWS) to satisfy the requirement to achieve no increase in overall dust emissions from the Premises.

Dust control validation

To determine the effectiveness of installed dust controls a monitoring program was conducted in September and November 2021 for 6 of the 10 installed BWS. Dust was measured using a portable DustTrak monitoring unit at varying locations upwind and downwind of conveyors, along the length of conveyors approximately 100m apart (ETA, 2022a).

During each sample period meteorological conditions were also measured. As wind conditions (speed and direction) can change during each sample period and operating conditions for the source may change, there remains some uncertainty to the results collected. There also exists the potential for other nearby sources to influence data collected as the monitoring point moves further from the conveyor location being measured. The Dust Control Validation Report (ETA, 2022a) attempts to calculate a confidence level for each conveyor point measured, as represented in Table 2.

Table 2: Measured effectiveness of conveyor BWS controls (ETA, 2022a)

Conveyors	BWS status	No. of samples	Average emission rate (g/s)	Confidence level	Reduction
Outload conveyors: CV915	Off	10	0.66	83%	78%
	On	10	0.15	83%	

CV944 CV945					
Causeway conveyors: CV921 CV948 CV950	Off	8	3.45	80%	82%
	On	16	0.63	89%	

Note: Conveyors CV911, CV912, CV916 and CV922 were not measured.

The field campaign focused on conveyors within CV Outload-TS and CV Outload-SL. These conveyors investigated were selected based on a combination of factors including wind direction and operational activities. Validation monitoring at some of the other conveyors fitted with new BWS would not be possible due to limited access up and downwind of controls, or where other sources may contaminate the up or downwind sample. For example, no sampling could be undertaken along conveyors CV911, CV912 and CV916 due to influence from nearby dust sources that could not be removed as part of background measurements.

The investigation concluded that the variation in emission rate reductions for both outload and causeway conveyors was measured to be greater than the required 75% to validate the model (ETA, 2022a). Over the investigation, a total of 44 readings were taken with each reading consisting of 5 individual samples (220 samples) (ETA, 2022b).

2.3.2 Dust management triggers and Reportable Events

The Licence Holder has reported zero Reportable Events in annual environmental reports. However, using boundary monitoring data provided by the Licence Holder, DWER has identified the number of reportable events for the NE Corner, SE Corner and Wharf monitoring stations as per the licence conditions (Table 3). Based on the analysis, the number of reportable events has decreased since 2020.

Table 3: Number of reportable events as per the licence conditions

Year	Reportable Events		
	NE Corner	SE Corner*	Wharf
2016	0	109	0
2017	0	90	0
2018	0	29	0
2019	0	N/A	0
2020	7	N/A	2
2021	4	N/A	1
2022	1	N/A	0

* SE Corner monitoring station data available until 5 December 2018.

Discrepancies between DWER's analysis and the Licence Holder's may be the result of differences in interpretation of the condition, which requires investigation and reporting of elevated dust concentrations at the specified boundary monitors where wind directions place

the nearest receptors generally downwind of premises activities.

2.3.3 Ore moisture requirements

During the 2021 reporting period the Licence Holder identified non-compliance with minimum moisture requirements for hematite. Less than 90% of in-loaded ore, and less than 95% of out-loaded ore was at or above the DEM level. This is likely due to the increasing acceptance of unblended ores mined above the water table and dry processed at the mines, for example Eliwana and Solomon (FMG, 2022).

The orange arrow in Figure 2 illustrates the frequency at which ore is received with a moisture content below each ore's DEM level, as measured at mine Train Load Out. The Licence Holder manages dust from drier ore received at the premises though the application of sprays at handling locations and stockpiling. Once at the premises, drier ores are also blended with wetter ores through stockpiling techniques, which improves moisture content at outload.

The Licence Holder has undertaken a study to assess a number of different options to improve compliance with in-loaded moisture requirements, with multiple options currently under consideration. The Licence Holder has confirmed that additional work is required to determine the most appropriate solution for the supply chain to improve moisture compliance (FMG, 2022).

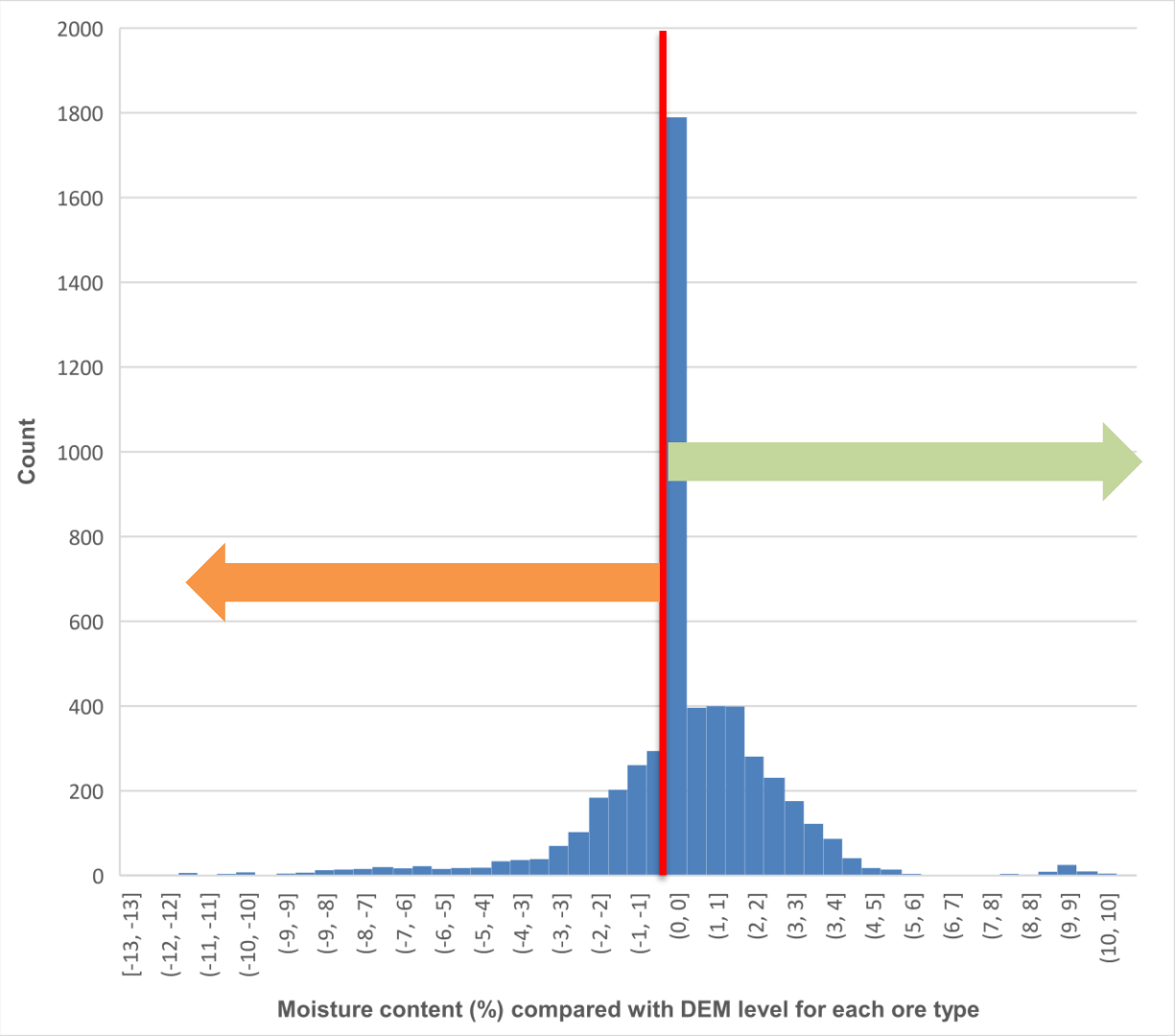

Figure 2: Moisture content (%) compared to each ore's DEM level as measured at mine Train Load Out (FMG, 2022)

2.4 Product quality

The majority of ore handled at the premises (approximately 85%) has been through a wet process at the mines rather than the traditional dry, crush and screening process. Wet processing of ore at the mines removes fine materials (i.e. less than 40 microns) from the final product therefore reducing the potential for dust generation at the port.

The Licence Holder does not rescreen ore at the premises.

As identified in section 5.3.7 of the Decision Report, Solomon Firetail Fines present the greatest dust potential of all the ores handled at the Premises due to its typically low moisture content on arrival to the premises. However, the Solomon Firetail fines product is projected by the Licence Holder to decrease from FY24. Solomon King Fines were also found to have a moisture content below the measured DEM level and ores from the Eliwana mine are expected to be similar.

When coupled with increasing ores mined above the groundwater table at Western Hub operations, the proportion of drier hematite ore entering the premises is increasing. DWER has consistently noted in risk assessments that ore moisture is the primary control for dust emissions in Port Hedland.

In 2021, the Applicant handled over 30 different ore types with increasing tonnages from its Western Operations, which includes dry processed ores from the Eliwana mine (approximately 10% of ore handled in 2021) (see Figure 3).

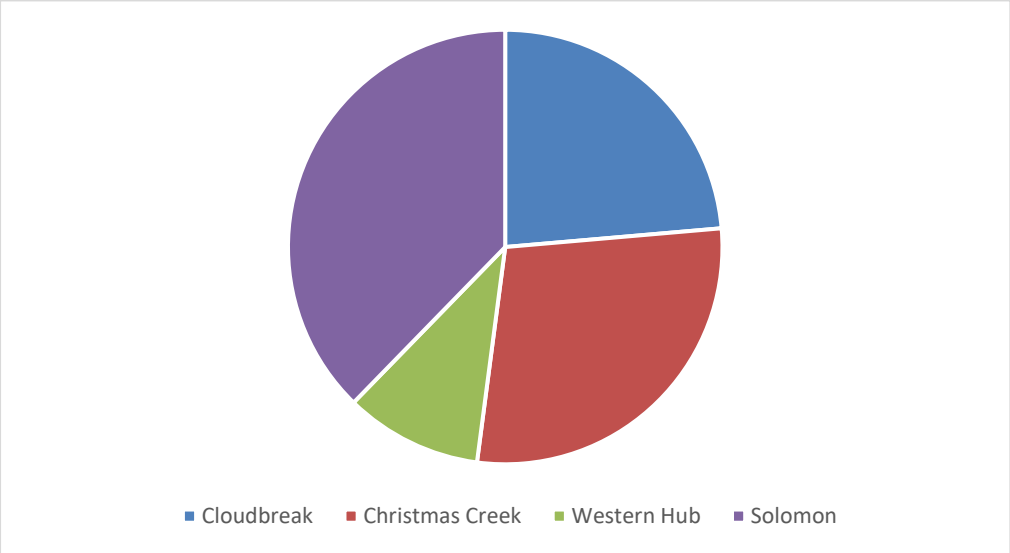

Figure 3: Ore source at the premises between January and December 2021 (FMG, 2022)

Discussion on ore moisture in 2021 is provided in section 2.3.3. The delegated officer understands that magnetite from Iron Bridge CHF, once constructed in accordance with works approval W6394/2020/1, will have a greater and more consistent ore moisture content than hematite ores from the Western Hub.

Based on the significant variance in ore types handled and proposed to be handled, it is likely that different control approaches require changes depending on the ore characteristics.

2.4.1 Ore moisture analysis

With increasing hematite tonnages from the Western Hub, the overall average moisture of ores handled at the premises are expected to decrease.

Moisture content of ore as measured at inload conveyors determines the management of ore as it is handled at the premises. If ore is received in a dry condition, that is with a moisture

content level below the dust extinction moisture level, the Licence Holder is required to apply dust sprays at various locations throughput handling. However, moisture analysis at the premises is limited by the method used to measure ore moisture content on arrival.

Near infra-red (NIR) moisture analysers used at the premises measure the surface moisture of material. The technique is susceptible to errors associated with changing reflectance levels of the material being measured, due to colour, texture, grading and the impact of ambient lighting levels. For this reason, NIR moisture analysers cannot be operated against an Australian Standard.

Moisture determination is also undertaken at mine site train load out facilities prior to arriving to the premises. Moisture data at train load outs is derived from application of Australian Standard *AS5621-2013 Iron ores – rapid moisture determination*, which is accepted by the department as accurate and reliable. Figure 4 identifies that there is a significant discrepancy between moisture determination methods with the majority of measurements at the premises underrepresenting ore moisture content. A large portion of results overestimate ore moisture content, sometimes significantly.

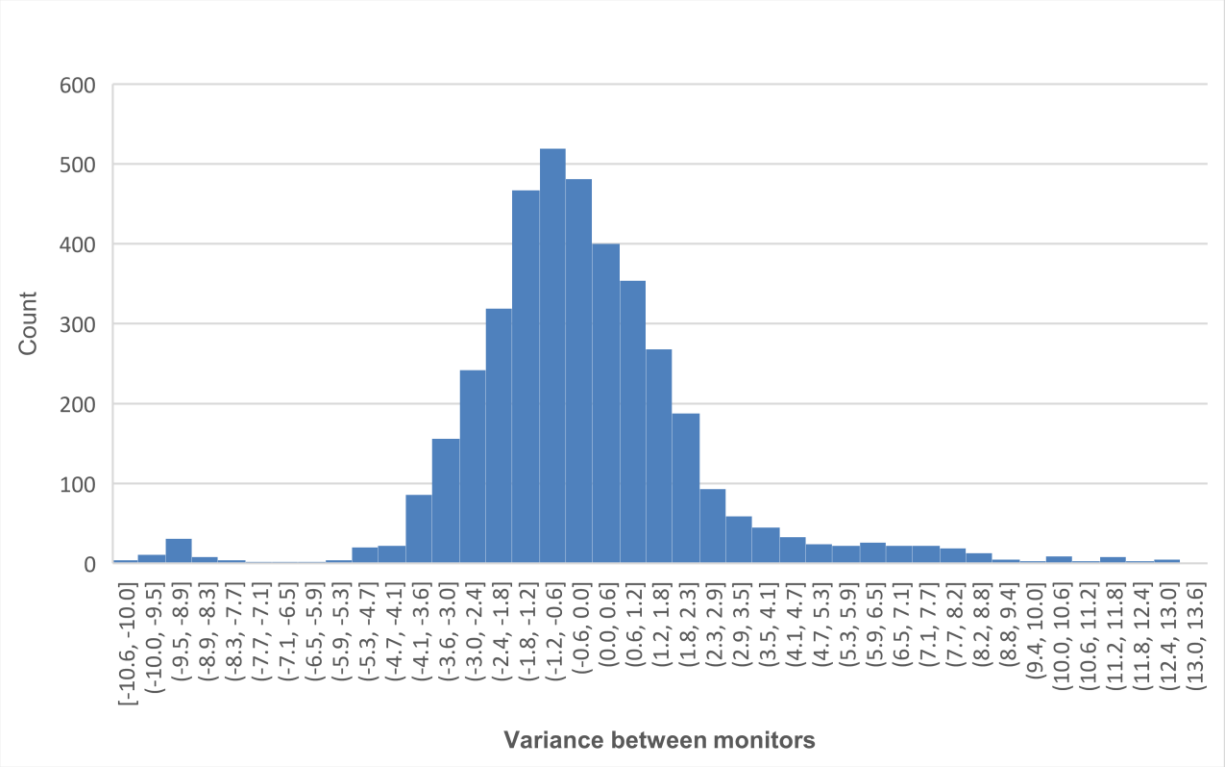

Figure 4: Differential between moisture measured at Port vs Mine (FMG, 2022)

The large number of different iron ore products received at the premises increases the difficulties in obtaining accurate moisture data from NIR analysers. Calibration for new products is required, presenting challenges particularly for products that are handled infrequently or in small quantities (FMG, 2022). Where compliance with ore moisture requirements for incoming ore is unknown, the Licence requires the Licence Holder to default to the application of additional dust controls e.g. dust sprays.

NIR analysers continue to be useful indicators of changing ore condition for the purpose of reactive dust management although improvements may be required to avoid the application of water to ores that have a moisture content above the DEM level.

2.5 Dust modelling

In support of the Application to increase hematite throughputs to 210Mtpa, the Licence Holder

has submitted dust modelling which predicts ground level concentrations of dust associated with the proposed change in throughput capacity, additional ore handling infrastructure (dust sources) and associated implementation of dust controls on the premises.

Four operating scenarios were modelled:

- **Baseline scenario:** 210 Mtpa of hematite iron ore loaded into vessels, 50 Mtpa of which being sourced from the Eliwana mine.
- **Scenario 1:** 210 Mtpa of hematite iron ore loaded into vessels, 35 Mtpa of which being sourced from the Eliwana mine.
- **Scenario 2:** 200 Mtpa hematite iron ore loaded into vessels (35 Mtpa from Eliwana mine), in addition to 10 Mtpa of magnetite from the North Star Iron Ore Mine.
- **Scenario 3:** 195 Mtpa hematite iron ore loaded into vessels (35 Mtpa from Eliwana mine) addition to 15 Mtpa of magnetite from the North Star Iron Ore Mine.

Table 4: Predicted cumulative 24-hour ground level PM_{10} (maximum, 95th percentile and average) concentrations at receptor locations (ETA, 2022)

Scenario		Richardson	Kingsmill	Hospital	Taplin	Neptune	South Hedland	Wedgefield
Base case	**Max**	220	223	219	201	196	188	194
	95th %ile	99	83	73	58	45	46	74
	Average	53.7	46.4	43.4	34.6	27.5	25.7	38.4
Scenario 1	**Max**	119	223	218	201	194	188	194
	95th %ile	93	80	72	57	43	46	75
	Average	52.7	45.7	42.9	34.4	27.4	25.7	39.1
Scenario 2	**Max**	219	223	218	201	194	188	194
	95th %ile	93	80	72	57	44	46	76
	Average	52.7	45.7	42.8	34.3	27.4	25.7	39.2
Scenario 3	**Max**	219	222	218	199	194	188	194
	95th %ile	93	79	72	57	44	38	67
	Average	52.7	45.7	42.8	34.3	27.4	25.7	39.1

Conclusions of the modelling report identified the number of excursions of the 24-hour averaged air guideline value for dust as PM_{10} in Port Hedland (70µg/m^3), is predicted to either remain the same as the base case (Scenario 1) or decrease (Scenario 2 and 3) at the Taplin St monitor (ETA, 2022). The difference in total emissions between each scenario is less than 0.5% and therefore is negligible in terms of ground level concentrations.

Maximum dust emissions from both cumulative (Table 4) and standalone scenarios were predicted to be similar to the “Base case” scenario with all other lower statistics predicted to decrease. The primary reason for this reduction is the reduction of the tonnage from Eliwana from 50 Mtpa in the base case to 35 Mtpa in each of the scenarios (ETA, 2022). Emissions estimates used in modelling for Eliwana fines identify the higher dust risk associated with

handling this ore type and the reduced effectiveness of controls, based on source specific monitoring results measured with controls on and off. Solomon fines were also identified as having a higher dust potential and lower response to dust controls when compared to Cloudbreak and Christmas Creek ore types.

The emission estimation techniques used in the modelling are generally, with some variation, adopted industry-wide in Port Hedland. Table 5 below identifies the key emission sources and the overall dust outputs from each scenario.

Table 5: Annual emissions (kg) from FMG sources used in the modelling scenarios

Infrastructure	Scenario 1	Scenario 2		Scenario 3	
	210 Mtpa	200 Mtpa (Hematite)	10 Mtpa (Magnetite)	195 Mtpa (Hematite)	15 Mtpa (Magnetite)
Conveyors	608,434	582,465	40,291	569,141	60,161
Transfer	316,161	301,818	15,094	294,396	22,566
Reclaimer	125,742	118,495	2,025	114,969	3,004
Ship loader	104,866	99,832	2,025	97,322	3,004
Stacker	102,624	98,694	2,005	96,416	3,012
Stockpiles	38,079	38,078		38,078	
Train Unloading	8,427	8,034		7,827	
All Vehicles	19,027	19,027		19,027	
Sub-total	1,323,360	1,266,443	61,440	1,237,176	91,747
Emissions factor (g/tonne)	**6.30**	**6.33**	**6.14**	**6.34**	**6.12**
Total emissions (kg)	**1,323,360**	**1,327,883**		**1,328,923**	

Based on the emissions inventory used in the modelling, the most significant dust generation is at conveyors and transfer stations, which account for approximately 70% of modelled emissions. The identification of transfer stations as a significant dust source is consistent with the generally accepted concept that dust is more likely to be generated where drier ores are dropped from height. It is also supported by DWER's analysis of boundary monitoring data (refer to section 2.6).

2.5.1 Dust modelling uncertainty

It is acknowledged that measuring emissions is inherently difficult and subject to multiple variables that can impact results used in modelling. The limitations of modelling as a useful tool for risk assessment in general is discussed in detail within section 5.4 of the Decision Report.

To counter some of these uncertainties, the Licence Holder has attempted to apply a level of conservatism to the model by attempting to demonstrate an overprediction of dust concentrations at receptor locations. This has been done in part by not incorporating some proposed controls, specifically the installation of three bulk ore conditioning sprays, within the model. The BOC sprays will be installed for the purpose of improving ore moisture prior to shiploading and are anticipated to result in a significant improvement to dust control at the premises. Reactive management controls are also not applied within modelled assumptions.

In addition, the “Baseline scenario” applied to modelling is not reflective of what is currently authorised within the Existing Licence, which limits hematite throughputs to 188 Mtpa. This detracts from the model’s value in assessing the change in risk from current authorised hematite throughputs to the proposed 210 Mtpa hematite outputs.

Key determination: In addition to existing uncertainties associated with dust modelling in general, detail on key controls and differences between ore types have not been included in assumptions for the dust model submitted with the Application.

However, due to the ongoing and significant uncertainties with dust modelling, a revised model is not expected to enhance the risk assessment and has been determined as not required.

2.6 Boundary monitoring

While uncertainties in modelling and emissions estimates are great, a review of boundary monitoring data for annual and peak concentrations suggests the modelling results at boundary locations appear to match reasonably well. This is based on a comparison against historical PM_{10} concentrations as measured at the boundary monitor locations for days greater than 350 µg/m^3 and predicted annual average concentrations (100 µg/m^3).

Pollution roses showing PM_{10} concentrations above 70 µg/m^3 at each of the monitoring stations are presented in Figure 5. For most monitoring stations, there is an increased frequency of higher concentrations for operation wind sectors. This pattern is especially clear for Iron Bridge, SE Corner, SE Corner and NW Corner.

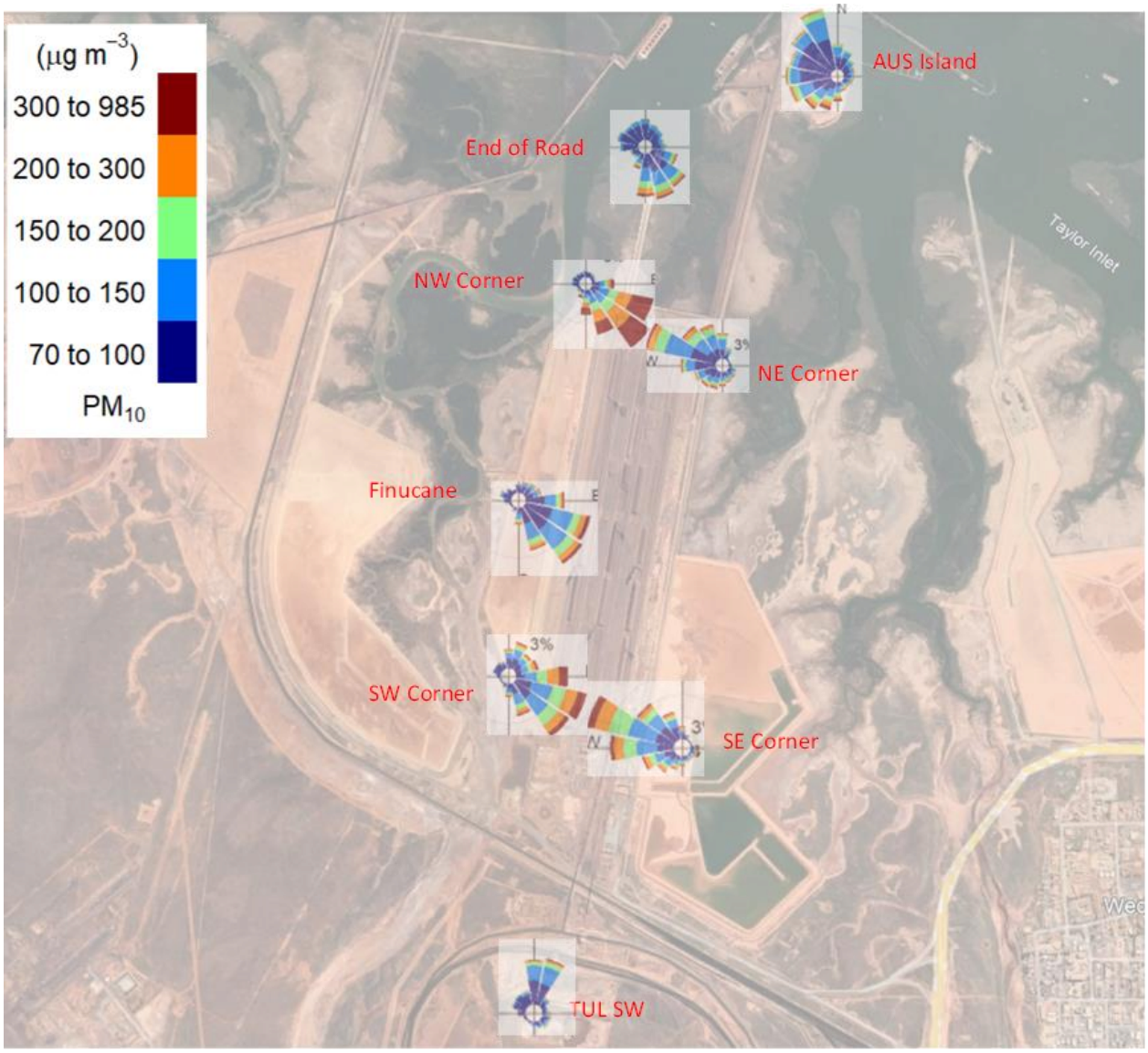

Figure 5: Pollution roses (frequency of hourly PM10 concentrations > 70 µg/m3) for boundary monitors

Dust sources that are not dependent on wind speed include material handling sources such as stackers, reclaimers, car dumpers, transfer stations, ship loaders and conveyor transfer points. The highest dust concentrations were consistently recorded at the NW Corner monitor when winds of varying speeds were from the direction of operational sources. The NW Corner is represented by transfer stations, shuttle conveyors and the return end of stockyard conveyors. The amount of dust generated by these sources is influenced by many factors including source activity (throughput), the status of emission controls (sprays, baghouses, etc.) and ore type/ore moisture.

The Licence Holder handles a large proportion of drier products (refer to section 2.3.3). The identification of key dust sources being locations where ore is dropped from height suggests that dust from the premises could be reduced by increasing ore moisture. Proposed belt wash stations are designed to prevent carry back of ore that sticks to the underside of belts and has the potential to drop to ground, creating a new dust source. This is typical of wetter ores with a high proportion of fines and is likely to have a lesser benefit when handling ores that have been screened of fines.

Dust from the carry back of ore on the underside of long conveyors is not as easily identifiable from this analysis of boundary monitoring data. Carry back dust is diffuse and can stretch up to

the length of the longest conveyors at the Premises, approximately 2km, meaning that fixed monitors may only measure a fraction of the overall source. Boundary monitoring using the method above is more likely to identify localised dust sources such as transfer stations and shuttle conveyors, as represented in monitoring results. Therefore, carry back may be underrepresented in an analysis of boundary monitoring data alone – refer to section 2.3 on the Dust Control Validation Report, which details an investigation into the effectiveness of belt wash stations.

While attention to improving the moisture content of ores is required by the Licence Holder to reduce dust from handling infrastructure, belt wash stations are still required to prevent wetter ores from sticking to the underside of conveyors. These controls will become increasingly important as ore moisture increases, for example near to BOC spray locations.

Key determination: The location of the three proposed bulk ore conditioning sprays has not yet been determined. Analysis of boundary monitoring data for PM_{10} identified that infrastructure in the northwest of the MHF appears to be the most significant sources of dust at the premises (see Figure 5). This is consistent with the department's results of the LiDAR investigation conducted in 2017 (refer to section 5.3.6 of the Decision Report).

Following review of dust monitoring data, the delegated officer has determined that at least one bulk ore conditioning spray should focus on improving ore moisture prior to transport through the northwest transfer station and shuttle conveyor (TS917 and SH917) to have the greatest overall effect on premises emissions.

The delegated officer acknowledges not all ore types generate significant dust when handled. Further that increasing the moisture of some ores can result in wet fines sticking to the belt and generate dust from carry back. Therefore the operation of bulk ore conditioning sprays should target drier ores, such as those from Eliwana and Solomon mines.

2.7 Noise modelling

Noise modelling was undertaken to determine if the proposal would result in any increased noise risk at Port Hedland receptors. Annual noise monitoring has been conducted at the premises from six surrounding locations to validate the baseline inputs to the noise model.

The model identified that the addition of new infrastructure, which introduces noise sources at the premises, may result in an exceedance of Assigned Levels under the *Environmental Protection (Noise) Regulations 1997* (Noise Regulation) at the former Hospital location by 4.1 dB (Talis, 2022). Noise levels at all other modelled noise receiver locations are expected to comply with Assigned Levels under the in-isolation case. These conclusions are based on noise from the premises in isolation.

The cumulative model scenario identifies an increase in noise at all receivers between 0.8 and 1.1 dB based on the introduction of new infrastructure and update noise source monitoring. Therefore additional controls (ultra-low noise idlers) were considered in a revised model scenario to mitigate noise levels in the cumulative scenario.

To offset the noise generated from new infrastructure the Licence Holder has proposed to install ultra-low noise idlers at existing outloading conveyors (CV921, CV922, CV927, CV948 and CV911). With additional controls applied all modelled results at the sensitive receivers were found to be below the base case scenario (Talis, 2022).

All new conveyors will also be fitted with ultra-low noise idlers, which have been identified by the Licence Holder through third party investigation of multiple options as having the lowest noise outputs for conveyor rollers suitable for use at the premises (FMG, 2022a).

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 decision report are detailed in Table 6 below. Table 6 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 6: Proposed applicant controls for new activities and infrastructure

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Excavation of earth to prepare stockyard for the Moisture Reduction System. Vehicle movements Site preparation works for the construction of the replacement RO plant on Australia Island.	Air / windborne pathway	Aligned with Existing Licence conditions: Wetting down of exposed areas prior to construction and/or clearing activities that involve ground disturbance. Ceasing all visible dust-generating construction activities during strong wind conditions or where average wind directions place receptors down wind.
Operation			
Dust	Transport of ore, including stacking, reclaiming and conveying through transfer stations where ore is dropped from height. Vehicle movements Lift-off from stockpiles	Air / windborne pathway	Belt wash stations, belt scrapers, spray bars fitted on boom discharge and conveyor. Water sprays and rubber skirts fitted to the exit of transfer points. Transfer stations enclosed. New shiploader at AP5 berth fitted with spray bars on the boom discharge and conveyors. New bulk ore conditioning sprays to be fitted to conveyors on the inload and/or outload circuit.
Noise	Transport of ore, including conveying, reclaiming and shiploading	Air / windborne pathway	Ultra-low noise idlers will be progressively fitted to existing conveyors CV921, CV922, CV927, CV948 and CV 911 and to all new proposed conveyors.

Emission	Sources	Potential pathways	Proposed controls
Wastewater management	Collection and discharge of seepage water from the Moisture Reduction System	Runoff to the marine environment	Discharge of recovered water to the surface water drain adjacent to the stockpile. Drain has capacity to contain 1,500m^3 of stockpile-recovered water and stormwater prior to discharge. The majority of recovered water will be returned to the CHF for reuse and/or used for dust suppression at the premises.
Light	Additional lighting associated with new shiploader.	Electromagnetic radiation (light)	Directional lighting that is minimised to only what is required for safe operations.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

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

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 7.

Licence L8194/2007/3 that accompanies this Amendment Report authorises emissions associated with the operation of the premises i.e. bulk loading of iron ore using an open materials loading system.

The conditions in the issued licence, as outlined in Table 7 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 7: Risk assessment of potential emissions and discharges from the premises during operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions of licence	Reasoning
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Construction								
Excavation of earth to prepare stockyard for the Moisture Reduction System. Vehicle movements Site preparation works for the construction of the replacement RO plant on Australia Island.	Dust	Air / windborne pathway causing impacts to health and amenity	Esplanade Hotel approximately 1.32km from shiploaders. Residential receptors in the West End approximately 1.75km from shiploaders and 3.35km from stockyards.	Refer to Section 3.1.1	C = Major L = Unlikely **Medium Risk**	Y	Existing conditions under the Licence for the: • management of dust during construction; and • reactive management to high dust levels recorded at boundary monitors.	Existing conditions sufficient for the management of dust during construction when visible dust is generated. Preventative action to be taken by wetting down surfaces prior to construction.
	Noise	Air / windborne pathway causing impacts to health and amenity		N/A	C = Moderate L = Rare **Medium Risk**	N/A	No additional controls required to manage noise generated during construction.	Noisy works are expected to be of short duration and the majority to not significantly contribute to cumulative noise in Port Hedland.
Operation								
Storage and transport of ore, including stockpiled ore, stacking, reclaiming and conveying through transfer stations where ore is dropped from height. Vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity	Esplanade Hotel approximately 1.32km from shiploaders. Residential receptors in the West End approximately 1.75km from shiploaders and 3.35km from stockyards.	Refer to Section 3.1.1	C = Major L = Possible **High Risk**	Y	Proposed controls (BWS and BOC sprays) required to be installed within 3 months of the granting of the amended licence. Requirement to install BOC spray on CV917 with other BOCs to be installed following Licence Holder investigation. Justification for location selection required through compliance reporting.	Refer to sections 2.5 and 2.6.
	Noise	Air / windborne pathway causing impacts to health and amenity		Refer to Section 3.1.1	C = Moderate L = Unlikely **Medium Risk**	Y	No perceptible increase in ambient noise is anticipated from the proposal following installation of Licence Holder-proposed controls (refer to section 2.7).	Noise in Port Hedland is currently exceeding Assigned Levels. DWER is undertaking separate investigation to these exceedances and potential sources to determine the feasibility of other regulatory measures.

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions of licence	Reasoning
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Additional lighting for the safe operation of shiploading.	Light	Light overspill resulting in the disorientation of species that rely on the sun for navigation. Increasing the predation of species within the adjacent mangrove community by increasing visibility.	Turtle nesting grounds located at Cemetery Beach and Pretty Pool, approximately 4.3km and 7.6km from the AP5 shiploader. Migratory birds	Refer to Section 3.1.1	C = Moderate L = Rare **Medium Risk**	Y	Additional lighting to be installed such that overspill is minimised.	No significant changes to lighting are proposed. There is currently significant light overspill from all Port Hedland operations. Increased lighting is expected to be negligible in the cumulative context.
Stockpiled ore over MRS canyons and the collection and discharge of seepage water from the Moisture Reduction System. Surface water management at train unloader (TUL2).	Sediment laden stormwater discharged to the marine environment	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality.	Mangrove community and marine fauna.	Refer to Section 3.1.1	C = Minor L = Rare **Low risk**	Y	Condition for the containment of surface water within the existing drainage channels, unless during extreme rainfall events.	Condition consistent with Licence Holder-proposed control used to justify the determined risk level. Discharge is to the South West Creek, which is an intermittent water body based on tides. As a result the South West Creek is naturally turbid. The South West Creek drains to the Port Hedland Inner Harbour, a highly degraded environment subject to high turbidity from tidal movements and existing shipping.

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

4. Consultation

Table 8Table 8: provides a summary of the consultation undertaken by the department and the responses received. On 8 July 2022, the department sent letters to direct interest stakeholders and relevant public authorities. The Application was also advertised on the DWER website on 11 July 2022.

Table 8: Consultation

Stakeholder	Comments received	Department response
Application advertised on the department's website on 11 July 2022	None received	N/A
Direct interest stakeholders (public)	None received	N/A
Town of Port Hedland	None received	N/A
Department of Jobs, Tourism, Science and Innovation (DJTSI)	The Department had no comments to the proposed licence amendment.	Noted
Department of Health (DOH)	The DOH's main concern is the impact of port activities on dust levels in the town of Port Hedland. On the assumption that conclusions in the model are accurate, the DOH did not raise concerns about the proposal.	While there exists uncertainty with modelling outputs (refer to section 2.5.1), the delegated officer is satisfied that the proposal will not result in an increase in dust outputs from the premises. Therefore ambient dust concentrations, and subsequent public health risks, are not expected to increase as a result of the proposal.
Pilbara Ports Authority (PPA)	PPA noted that Fortescue had submitted a Development Application to the Port Authority and that there were no further comments on the Application with DWER.	Noted
Port Hedland Industries Council (PHIC)	None received	N/A
Pilbara Development commission	None received	N/A
Applicant was provided with draft documents on 23 September 2022.	Comments were received on 17 October and 9 November 2022. Refer to Appendix 1 for comments and Department response.	

5. Conclusion

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

The delegated officer notes the upcoming finalisation and subsequent implementation of the Dust Management Guideline, which identifies best practice standards for dust control as implemented at other operations around the world. The implementation of these controls will be required across all Port Hedland operators following a standard measure of performance against the Guideline. Through this process it is the department's expectation, as described in its Regulatory Strategy, that reductions in dust outputs from each premises will result in a reduction in ambient dust (as PM_{10}) across the Port Hedland peninsula. The decision to approve hematite throughputs to 210Mtpa is independent of any considered benefits associated with the implementation of the Dust Management Guideline for Port Hedland.

5.1.1 Throughput limits

Previous limits on the handling of hematite ore have been removed from the Amended Licence. Overall Premises throughput limits (magnetite and hematite combined) remain unchanged at 210Mtpa.

Note: Magnetite throughput limits specified in the licence have also been removed, to align with the intent of the previous assessment for the 2019 Application for throughputs to 210 Mtpa (refer to section 8.5.1 of the Decision Report).

The delegated officer has determined that the addition of the three proposed BOC sprays is required. Although the Licence Holder has not yet determined the exact location of these controls, the delegated officer has identified the need to install at least one BOC spray ahead of ore being transported through outloading transfer station TS917 and following reclamation via RC703. The remaining two BOC sprays can be positioned at locations identified by the Licence Holder's investigation.

All dust control equipment in support of this Application must be constructed within 3 months of the date of the Licence Holder exceeding 188 Mtpa of hematite ore throughput.

Grounds: Authorisation to increase hematite throughputs is linked directly to the installation of additional proposed dust controls, which have been determined to be adequate.

The delegated officer notes from the conclusions of dust modelling that the introduction of additional belt washing infrastructure on some of the sites longer conveyors that handle wetter magnetite ores (CV918), and those located closest to Port Hedland receptors (CV927 and CV932), may result in either no increase or a slight decrease in overall dust emissions from the Premises following increased hematite handling. However, results of dust modelling are uncertain. The Port Hedland Regulatory Strategy states the Department's objective, which is:

"…to ensure dust emissions from premises licensed under the EP Act are not increased in the short term. And, that following the introduction of dust management controls from the Dust Management Guideline, impacts are reduced to the lowest practicable level across the whole Port Hedland peninsula"

Due to large uncertainties with the dust model (refer to section 2.5.1), additional controls are required. Effort to increase the moisture content is expected to result in a significant reduction in dust emissions, in particular from outloading transfer station locations where dust emissions are known to be elevated. A review of boundary monitoring has identified that dust appears to be greatest from the location of the outloading transfer station TS917 and associated shuttles. Increasing ore moisture prior to outload is expected to reduce emissions from key sources in the stockyard but also have flow on effects at the point of ship loading, another source of dust identified during the department's LiDAR investigation (refer to section 5.3.6 of the Decision

Report).

The Licence Holder handles a large proportion of drier products. Maintaining ore moisture content above the DEM level has been determined to be a primary control for managing dust. BOC sprays are expected to increase ore moisture and reduce dust generated from ore as it drops from height. The Licence Holder will be required to demonstrate justification for the location of the remaining two BOC sprays, including consideration of any alternative locations, through compliance reporting.

5.1.2 Further works

In addition to the dust controls discussed in section 5.1.1 above, the Licence Holder is permitted to construct the Moisture Reduction System beneath stockyards.

Note: Once constructed the Licence Holder is authorised to discharge recovered water drained from the Moisture Reduction System to the existing drainage channel running alongside the stockpile canyon. Discharges must be managed such that the drainage channel allows for sediments to settle prior to discharge.

Existing dust management conditions will remain on the Amended Licence for the management of dust emissions during the construction of the Moisture Reduction System.

The Licence Holder is permitted to install additional dust suppression controls such as additional BOC sprays, foggers and belt cleaning infrastructure to proactively increase dust controls ongoing. These controls have not been risk assessed for their dust control effectiveness. Consideration of these unknown controls for the purpose of assessing risk associated with future throughput increases or changes to ore handling, will be at the discretion of the delegated officer.

5.1.3 Infrastructure and equipment

Additional stormwater management infrastructure at train unloader TUL2 has been incorporated into the infrastructure table in Schedule 3. Management of the discharge point is the same as existing requirements for other similar discharge points. The TUL2 diversion drainage channel connects with the existing stormwater surface drainage network at the premises.

All new BOC sprays must be activated when handling iron ore with a moisture content below the DEM level.

Note: Where the moisture content of an ore is not known to be above the DEM level, dust control equipment must be activated as a precaution. Belt wash stations must be initiated whenever ore is handled to minimise carry back.

Grounds: Belt wash stations are typically most effective when handling wetter ores, whereas applying water to drier ores using BOC sprays reduces dust through handling and to a lesser extent, wind erosion. Applying water to ore with an existing high-water content (above DEM level) may result in the clogging of handling infrastructure and an increase in carryback. Therefore a different approach to the use of BOC spray and belt wash station dust controls is required.

5.1.4 Moisture content monitoring and management

The delegated officer notes that previous improvement conditions for an increase moisture content of out-loaded ore have not been achieved. Conditions for the moisture content of 99% of ore out-loaded from the Premises to be greater than the DEM level by 1 July 2022 have been removed.

Note: The Licence Holder must maintain at least 95% compliance of ore shipped having a moisture content greater than the DEM level.

Grounds: Removal of moisture content improvement conditions does not represent a real

decrease in moisture content or dust control as the Licence Holder is currently not achieving the higher benchmark. The 95% requirement is consistent with other operations in Port Hedland where ore is dry processed at the mine or mined from above the water table. The requirement to install BOC sprays is expected to improve out-loading compliance for moisture requirements and also reduce dust emissions from ore that remains below the DEM level.

5.1.5 Administrative amendments

In submitting reports to demonstrate compliance with previous construction requirements the Licence Holder has satisfied some conditions of the previous licence. These conditions have been removed.

This includes the removal of the requirement for submitting a Dust Control Validation Report and provisional conditions for further dust control infrastructure where previously installed infrastructure was not as effective as originally modelled to justify the previous licence amendment. The methodology used, and the number of samples taken during the investigation gives sufficient confidence that the BWS installed will be as effective as originally modelled. Therefore the installation of the additional contingency BWS under the conditions of the Existing Licence is not required and these conditions have been removed.

Remaining works that have not been completed at the time of issuing the Amended Licence and were granted 5 years to be completed at the time of the previous amendment, are authorised for construction up until 2 September 2025. This date marks 5 years from the previous licence amendment and does not represent a change to requirements. All new works are to be constructed within 5 years from the date of issuing this Amended Licence.

Amendments have been made to Quarterly Reporting requirements for the submission of all validated boundary air quality and meteorological monitoring data. This condition removes requirement for annual data reporting and is consistent with the requirement to other Port Hedland operators and is necessary for ongoing PM_{10} trend analysis to inform the progress of the Port Hedland Regulatory Strategy and compliance with reporting conditions for high dust events.

Minor changes to the premises boundary have been made through this licence amendment to accommodate the new desalination plant location on the south-eastern corner of Australia Island. In addition, the premises map has been revised to demonstrate the intersect with Iron Bridge operations, where magnetite from Iron Bridge is brought to the Premises via conveyor.

The amended Licence has been updated to suit the current template format.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. DWER 2020, Decision Report, issued 2 September 2020. Available online https://www.der.wa.gov.au/images/documents/our-work/licences-and-works-approvals/Decisions_/L8194-2007-3%20d.pdf.
5. ETA, 2022, Herb Elliot Port Dust Assessment (210 Mtpa): Assessment Study, prepared for Fortescue Metals Group Ltd. Environmental Technologies & Analytics, Perth.
6. ETA, 2022a, Dust Abatement Characterisation: Assessment Study, prepared for Fortescue Metals Group Ltd. Environmental Technologies & Analytics, Perth.
7. ETA, 2022b, Subject: 1204 – HPLV Dust Suppression Monitoring, prepared for Fortescue Metals Group Ltd. Environmental Technologies & Analytics, Perth.
8. FMG 2022, Submission of 2021 Annual Environmental Monitoring Report. Email received 31 March 2022 (DWER records: DWERDT586059; A20292719).
9. FMG, 2022a, Licence Amendment – Supporting document: Anderson Point Materials Handling Facility, March 2022, Fortescue (the Application).
10. Talis, 2022, 210 Mtpa Port Expansion: Environmental Noise Assessment, prepared for Fortescue Metals Group. Talis Consultants, Perth.

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

Condition/s summary	Summary of applicant's comment	Department's response
Requirement to place a BWS on CV951	CV951 is no longer part of proposed infrastructure at the Premises.	Noted and removed.
Dust control requirements	Licence Holder requests authorisation to install additional dust control infrastructure as required.	Noted and authorised.
Removal of requirement for Dust Control Validation Report submission	The Dust Control Validation Report was submitted 30 September 2022, during the statutory 21-day consultation process.	Noted and removed. Section 2.3.1 added to this Report to introduce DWER consideration of the Dust Control Validation Report and determination of compliance. The Delegated Officer has determined that the methodology used, and the number of samples taken during the investigation gives sufficient confidence that the BWS installed will be as effective as originally modelled. Therefore the installation of the additional contingency BWS under the conditions of the Existing Licence is not required and these conditions have been removed.
Authorised extent of the MRS trial	Request to incorporate the ability for multiple canyons in the stockyards and water extracted from MRS is contained, settlement of fines occurs within the drain and the water is discharged with the stormwater through the licensed discharge point W1 as outlined on the approved licence. Requested revised wording in infrastructure and equipment table: "Discharges of extracted water to be retained within drainage channel for a sufficient period for the majority of suspended particles to settle prior to discharge through W1 'Sedimentation Basin' discharge point. ~~managed such that there is no discharge to the environment unless during a 1 in 100 year, 3 hour rainfall event.~~	Authorised extent of MRS trial changed from being limited to only Canyon G1 to authorising the construction of under-stockpile drainage collection to all stockyards. All recovered water is required to be discharged to the Sedimentation Pond to settle out prior to final discharge to W1 (South West Creek). The MRS must be constructed such that extracted water can be utilised for dust suppression or returned to the CHF for use. Although the suggested wording does not entirely satisfy DWER's published guidance on setting conditions, the risk of impacts to the Port Hedland Inner Harbour from sediment was assessed as low. The risk to environment following the removal of prescriptive conditions remains as acceptable and low.
Source of magnetite to the Premises	Request to revise condition to include the Concentrate Diversion Pond (CDP) within the Iron Bridge condition for the CHF. In addition to incorporate moisture content monitoring of product prior to entering the Premises.	Noting that the magnetite shares the same mine of origin and has a moisture content in excess of the required DEM level for that product, the change is accepted. Additional moisture content monitoring location has been added to the licence as

Condition/s summary	Summary of applicant's comment	Department's response
		requested and to ensure the above assumption relating to the product's dust potential remains accurate.
Relocation of Wharf monitor	Remove condition authorising the relocation of the Wharf monitor as this was completed 9 April 2022.	Noted. Condition removed.
Premises maps	Updated maps provided.	Accepted.
Overall	Minor administrative changes requested.	All changes that do not affect the application or intent of the condition have been accepted.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	☐				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?		Yes ☐ No ☐	
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes ☐ No ☐ N/A ☐	
		Environmental Compliance Report submitted?		Yes ☐ No ☐	
		Date Report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☒	Current licence number:	L8194/2007/3		
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received		4 May 2022			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Fortescue Metals Group Ltd			
Premises name		Anderson Point Materials Handling Facility			
Premises location		Anderson Point (Port Hedland)			
Local Government Authority		Town of Port Hedland			
Application documents					
HPCM file reference number:		DER2013/001082-1~12			
Key application documents (additional to application form):		Licence Amendment – Supporting Document			
Scope of application/assessment					

Summary of proposed activities or changes to existing operations.	***Construction of:*** • shiploading infrastructure at AP5 (fourth shiploader) to increase hematite handling capacity; • Construction and operation of a new shuttle conveyor SH 953 at AP5. • Construction and operation of a new transfer station TS 302 which will connect CV 302 with CV 902, CV 903, CV 908 and CV 909. • Tie in of CV 908 with CV 901 and TS 901 (CV 908 has been constructed). • Proposed extension to existing transfer station TS901 to join CV 908 and CV 909. • Construction and operation of 4 new additional High Pressure Low Volume belt wash stations (HPLVs) on CV918, CV 927, CV 951 and CV 933. Potential to install an additional 3 optional HPLVs on CV 901, CV 905 and CV 906. • Construction and operation of three new bulk ore conditioning sprayers on conveyors within the inload and outload circuit. • Construction and operation of Moisture Reduction System (MRS) trial beneath Canyon G stockpile to extract water from magnetite product in order to maintain transportable moisture limit (TML) below 10.5%. • Proposed progressive replacement of noise rollers on outload circuit at the shiploading berths. • Construction and operation of a new desalination plant to replace the existing desalination plant at the port. ***Additional requested changes:*** • Change in the requirement of Dust Extinction Moisture (DEM) compliance of iron ore outload and alignment with other operators at the port. • Additional stormwater discharge location for Train Unloader 2 (TUL2) and update to water recovery system from TUL facilities. • Minor premises boundary change.

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	Proposed changes to the production or design capacity
Category 58: Bulk materials loading or unloading	210 Mtpa bulk handling iron ore including up to: • 188 Mtpa hematite • 22 Mtpa magnetite	210 Mtpa bulk handling iron ore including up (no ore type restriction)
Category 70: Screening etc. of material	45,000 tonnes per annum	No change.

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 ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐

Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: MS690 EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☐ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: 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 ☐ No ☒	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☒	Name: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☐ No ☒	N/A
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	N/A
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	N/A
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☐ No ☒	N/A