Government of Western Australia
Office of the **Appeals Convenor**
Environmental Protection Act 1986

# Appeals Convenor's Report to the Minister for Environment

## Appeal objecting to a licence amendment: L8194/2007/3 Anderson Point Materials Handling Facility, Port Hedland


| | |
|---|---|
| **Appellant** | Ms Lynnette Taylor |
| **Licence holder** | Fortescue Metals Group Ltd |
| **Authority** | Department of Water and Environmental Regulation (DWER) |
| **Appeal No.** | 046 of 2020 |
| **Date** | June 2021 |

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**Acknowledgement of Country**

The Office of the Appeals Convenor acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community.

We pay our respects to all members of the Aboriginal communities and their cultures, and to Elders both past, present and emerging.

# Contents

# 1 Executive summary

## 1.1 Decision under appeal

Fortescue Metals Group Ltd holds Licence L8194/2007/3 for the Anderson Point Materials Handling Facility in the port of Port Hedland. The Department of Water and Environmental Regulation (DWER) amended the licence on 2 September 2020 under Part V of the Environmental Protection Act 1986 (EP Act). The amendment authorised an increase in the annual throughput for bulk material loading or unloading from 175 million tonnes per annum (Mtpa) to 210 Mtpa (an increase of 35 Mtpa).

Please see Section 3.1 for a summary of the licence history and the current amendment. A map of the site is provided in Appendix 1.

## 1.2 Grounds of appeal and appellant concerns

The appellant is Ms Lynnette Taylor. Ms Taylor submitted that the amendment to the licence to increase iron ore throughput should not have been granted as the conditions relating to dust management and monitoring are inadequate.

The main concerns raised in the appeal are broadly summarised under 3 grounds in Table 1. A more detailed summary of the appellant's concerns is provided in Section 3.2.

**Table 1** Grounds of appeal

| Ground | Main concerns raised in the appeal |
|---|---|
| Dust emissions | • Increased throughput should not have been permitted as the conditions relating to dust monitoring and management are inadequate and DWER has not appropriately considered cumulative effects or applied a precautionary approach. |
| Impact on amenity | • DWER failed to adequately assess the impact on amenity and unreasonably relied on health criteria as being protective of amenity, with no evidence to support this. |
| Compensation for loss of amenity | • The assessment of amenity did not give adequate consideration to the 'polluter pays' principle in the EP Act and the licence holder should be required to compensate the community for costs associated with loss of amenity.<br>• Conditions should be applied to require compensation of residents. |

## 1.3 Key issues and conclusions

From the appellant's concerns, we have identified that the 2 issues at the heart of the appeal relate to the control of dust emissions and impacts to amenity.

We summarise our conclusions for these issues below. Section 2 of this report details our reasoning and Section 3 provides supporting information.

The appellant's concerns about compensation are considered to be outside of our scope, but for completeness we discuss them briefly in Section 3.6.

**Are the regulatory controls for dust emissions adequate?**

DWER applied a risk-based approach to its decision-making with respect to the amendment of licence L8194/2007/3, consistent with the State Government's response to the Port Hedland Dust Management Taskforce Report and DWER's recently published regulatory framework. Based on the outcome of its assessment, DWER applied additional regulatory controls on the licence, proportionate to the risk (likelihood and consequence) that the increase in throughput at the premises poses to public health and amenity.

We find the regulatory controls relating to the management and monitoring of dust emissions generally appropriate and directed toward achieving DWER's objective of ensuring dust emissions from the premises are not increased in the short term ('no net increase') and the current risk level is not exceeded because of throughput increases.

DWER has required the construction and/or installation of additional dust control infrastructure as contingency measures if incremental increases in throughput result in its regulatory objective for Port Hedland not being met.

As this is a key control to ensure no net increase in dust emissions from the premises, we recommend that additional conditions are required to validate and report on the effectiveness of any additional dust control infrastructure, should it be required to be installed.

**Did DWER adequately assess the impacts of dust emissions on amenity?**

We find that DWER adequately considered the impacts of dust emissions on amenity in its assessment of the licence amendment.

We note:

- DWER determined the overall rating for the risk of dust emissions from the premises impacting the health and amenity of sensitive receptors in Port Hedland is 'High'.
- Regulatory controls for the purpose of preventing and managing dust emissions for the protection of community health are also expected to be protective of amenity.

## 1.4 Recommendation to the Minister

Overall, we find that DWER has applied a risk-based approach to its decision-making with respect to the amended licence, consistent with the State Government's response to the Port Hedland Dust Management Taskforce Report and its published regulatory framework.

Based on the outcome of its assessment, DWER has applied appropriate regulatory controls on the licence, to ensure that there is no net increase in dust emissions from the premises because of the increase in throughput permitted by the amendment. The licence also includes contingency measures that require the licence holder to install additional dust control infrastructure if the objective of no net increase in dust emissions is not being met.

As the specified contingency measures are a key control, it is recommended that the appeal be allowed to the extent that additional conditions are added to the licence requiring the licence holder to validate and report on the effectiveness of any contingency measures required to be installed.

Specifically, we recommend that the licence is amended to require the licence holder to:

- review the dust control infrastructure specified in row 1 of Table 4 (Condition 8), and prepare and submit a Dust Control Validation Report with the information specified in Schedule 4, within 12 months of the submission of the Environmental Compliance Report for that infrastructure. This is consistent with the verification requirements for

the dust control infrastructure specified in rows 6, 7 and 8 of Table 3 (Condition 7) as set out in Condition 16.

- submit a Dust Monitoring Report that incorporates the information specified in Schedule 6, within 15 months from the completion of the installation of the infrastructure specified in Table 4 (Condition 8). This is consistent with the Dust Monitoring Report requirements for the infrastructure specified in Table 3 (Condition 7) as set out in Condition 36.

In addition, we recommend a number of further, generally minor improvements could be made to the licence to correct inconsistencies, remove any uncertainty and provide greater clarity as to what is intended. Our full recommendations and an explanation are provided in Table 2 in Section 2.1.

If the Minister agrees with these recommendations and the licence is amended, there may be minor consequential amendments required that would be a matter for DWER to consider in giving effect to the Ministers decision under section 110 of the EP Act.

It is recommended that all other grounds of appeal be dismissed.

# 2 Reasons for recommendation

## 2.1 Are the regulatory controls for dust emissions adequate?

Our conclusion is that DWER has applied a risk-based approach to the regulation of dust emissions from the premises and applied appropriate controls directed at ensuring that no net increase in dust emissions from the premises as a result of an increase in throughput. This is consistent with DWER's published regulatory framework for Port Hedland.

While we find generally that the controls for dust management and monitoring are adequate, we recommend a number of improvements could be made to validate and report on the effectiveness of any additional controls required to be installed to ensure that DWER's objective of 'no net increase' in dust emissions is achieved.

We also recommend a number of minor amendment to correct inconsistencies, remove any uncertainty and provide greater clarity as to what is intended.

We explain our reasoning below.

**Port Hedland Dust Program**

The appellant submitted that DWER's decision to amend the licence is inconsistent with the State Government's response to the Port Hedland Dust Management Taskforce Report and DWER's own statements regarding its regulatory strategy for dust in Port Hedland.

By way of background in October 2018, the State Government released its response to the Port Hedland Dust Management Taskforce report (the Taskforce Report). The Taskforce Report endorsed the continued application of an air quality guideline value for Port Hedland of 24-hour $PM_{10}$ of 70 µg/m$^3$ (excluding natural events) in all residential areas.[1] The air guideline value was derived using established human health risk assessment techniques and assumptions and is considered to be protective of the health of a 'general population' within the defined area, provided the composition of dust does not change and the population does not increase.[2]

To address the recommendations in the State Government's response to the Port Hedland Dust Management Taskforce Report for which the Department is responsible, DWER established the Port Hedland Dust Program[3] and recently published its Port Hedland Regulatory Strategy[4] (the Strategy). The Strategy includes short-term (5 years) and medium-term (5 to 10 years) regulatory horizons.

Consistent with the Strategy, in the short term, DWER has stated it is taking a conservative approach to the assessment of any works approval, licence or amendment applications received for premises in the Port Hedland airshed.[5] Applicants are required to demonstrate that a proposed throughput increase will not result in an increase in dust emissions from the premises ('no net increase') and the current risk level is not increased. Where this is not demonstrated, DWER will consider further controls that may in part serve to reduce any increase in dust emissions.

In this case, from our review of the available information, we note:

[1] DWER's regulatory role, Community Updates. Port Hedland (DWER, October 2020).
[2] DWER's regulatory role, Community Updates. Port Hedland (DWER, October 2020).
[3] DWER's regulatory role, Community Updates. Port Hedland (DWER, October 2020).
[4] Port Hedland Regulatory Strategy, DWER 2021.
[5] Interim regulatory approach, Managing dust in Port Hedland. Industry Regulation fact sheet (DWER and Department of Health, 2018).

- The licence holder submitted dust modelling in support of its application for increased throughputs to demonstrate that, based on the assumptions made in the model, dust emissions from the premises will not increase once its proposed controls are implemented.
- DWER considered there is a level of uncertainty in the conclusions from the dust modelling and the predicted effectiveness of the licence holder's proposed dust controls, to confidently determine that 'no net increase' in dust emissions from the premises will be achieved.[6] DWER also noted there are inherent limitations in air quality modelling.
- As a result of this, DWER applied additional regulatory controls on the amended licence for the management of dust to address the uncertainty in the effectiveness of the licence holder's proposed controls.

We also note that when DWER finalises its Dust Management Guideline, which is to be developed in the short term as part of the Strategy, all port operators will be required to self-assess their operations against these guidelines, report to DWER and provide details and a draft schedule for implementation of improvements to its operations. DWER will then review and amend licences in a timely manner.[7]

**Regulatory and policy frameworks**

The appellant submitted that DWER's decision to amend the licence is inconsistent with the precautionary principle in the EP Act, as well as DWER's regulatory principles to assess cumulative impacts and to have consistent regulatory outcomes.

The statutory object and principles set out in section 4A of the EP Act guide DWER's environmental regulation functions. DWER has an established regulatory framework for activities that are regulated under Part V of the EP Act. This includes DWER's regulatory principles which are intended to guide effective and efficient environmental regulation, supported by various guidance statements with set out the processes for risk assessment, environmental siting, decision-making and condition setting.

From our review of the available information, we note:

- DWER applied a risk-based approach to its regulatory functions and decision-making with respect to the licence amendment.[8] DWER's risk assessment was consistent with its Guidance Statement: Risk Assessments and included identification of the sources, potential emissions, receptors, pathway and impact to receptors.
- DWER's risk assessment included consideration of the cumulative impacts of emissions. The licence holder submitted cumulative dust modelling which was considered in DWER's assessment.[9] The modelling included cumulative emissions from existing, approved and planned operations: Pilbara Ports Authority Utah Point operations (21 Mtpa), BHP Billiton Iron Ore Pty Ltd operations at Nelson Point and Finucane Island (290 Mtpa), Roy Hill Infrastructure Pty Ltd operations (60 Mtpa) and the proposed North West Infrastructure operations in South West Creek (50 Mtpa).[10]
- DWER's risk assessment took into account the uncertainty associated with the emissions reduction calculations and the limitations of air quality modelling, and risk was assessed

[6] Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Sections 5.4, 7.4.8, 8.2.2 and 8.6.3.
[7] Port Hedland Regulatory Strategy, DWER 2021.
[8] Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 7.
[9] Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 5.4.
[10] Licence Amendment – Supporting Document, Anderson Point Materials Handling Facility (Fortescue Metals Group Ltd, December 2019), Section 5.1; Herb Elliot Port Dust Assessment (210 Mtpa). Assessment Study. Final Report (Environmental Technologies & Analytics, December 2019).

against Scenario 1.[11] Scenario 1 represents the worst case scenario as it assumes handling of 210 Mtpa of the drier hematite ore from the Eliana mine.[12]

We note that in its response to the appeal, DWER advised that by regulating towards 'no net increase' in overall dust emissions from the premises, it is ensuring that the industry-derived contribution to cumulative dust concentrations in Port Hedland are not increased.

**Regulatory controls for dust emissions generally adequate**

The appellant submitted the conditions are inadequate and unreasonably shift the risk of pollution to the community and environment, rather than the licence holder as the polluter. The appellant also submitted the licence conditions should be reviewed to ensure consistency and enforceability, as well as compliance with the precautionary principle.

Having established that DWER has applied a risk-based approach to the regulation of dust emissions from the premises, consistent with its published regulatory framework, the focus of our investigation is on whether the conditions applied to the amended licence are appropriate and adequate for the purpose of "prevention, control, abatement or mitigation of pollution or environmental harm" associated with the increase in throughput. The findings from our review are in Section 3.3.

Based on our review of the conditions, we find the regulatory controls for dust management and monitoring are generally appropriate and commensurate with achieving DWER's objective of ensuring that dust emissions from the premises are not increased in the short term ('no net increase') and the current risk level is not exceeded as a result of throughput increases.

We note:

- The regulatory controls require the installation of belt wash stations prior to an increase in hematite ore throughput to 181 Mtpa, 185 Mtpa and 188 Mtpa.
- The full throughput amount of 210 Mtpa will only be permitted once the Iron Bridge Concentrate Handling Facility is operational and 10 belt wash stations are installed.
- The licence holder is required to validate the effectiveness of these dust controls and submit a Dust Control Validation Report.
- The licence holder is required to prepare and submit a Dust Monitoring Report after completion of the installation of infrastructure.
- The licence also authorises the construction of additional dust control infrastructure if it is determined by the licence holder and/or DWER that the objective of 'no net increase' in dust emissions is not achieved following additional iron ore throughputs up to 210 Mtpa.
- We note there is no requirement for the licence holder to validate the effectiveness of the additional dust control infrastructure or to prepare and submit a Dust Monitoring Report in the event this additional dust control infrastructure is required.

As DWER is relying on the construction and/or installation of additional dust control infrastructure as contingency measures to ensure its regulatory objective of no net increase in dust emissions for Port Hedland is being met, we suggest a number of improvements could be made to the licence.

Specifically, we recommend that additional conditions are added to the licence requiring the licence holder to validate and report on the effectiveness of any contingency measures required to be installed.

[11] Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 5.4.
[12] Hematite ore from the Eliwana mine is mine above the groundwater table and is not wet processed at the mine site and thus has a greater potential to generate dust (DWER, September 2020, Section 7.4.7).

Our recommended amendments are detailed in Section 1.4 above.

### Management Trigger criteria and responses are included on the licence

The appellant submitted that the conditions on the licence should be consistent with the conditions on BHP Billiton Iron Ore Pty Ltd's licence for its Port Hedland Operations (licence L4513/1969/18). Specifically, the amended licence should specify the management actions to be undertaken in the event dust Management Trigger criteria are exceeded.

We find that:

- Dust Management Trigger and Reportable Event criteria are specified in Condition 29 for boundary monitors and the Taplin Street monitor where the premises may be a contributing source, as determined by wind direction (i.e. when wind direction places the premises upwind of West End and South Hedland receptors).
- Dust management actions are included on the licence that are required to be implemented in the event that the dust Management Trigger and/or Reportable Event criteria are exceeded (Conditions 30, 31 and 32).
- These include requirements for the licence holder to:
    - Immediately upon notification of an exceedance of the specified Management Trigger/Reportable Event criteria, conduct a site investigation to identify any visible dust generation at the premises; and, upon identification of visible dust generation during the site investigation, immediately control visible dust emissions by applying additional dust suppression and/or activating dust extraction equipment (where applicable) and/or stopping all activities resulting in visible dust generation.
    - In the event that no visible dust can be identified within 20 minutes of the exceedance, operate all stockyard water cannons on deluge cycle; and apply water to all unsealed trafficable areas where vehicle movement has occurred in the previous hour.
    - These management actions are to be continued for the duration of the Management Trigger/Reportable Event criteria being exceeded.

We understand that management and reporting triggers are designed to be iterative to enhance the identification of high dust events that are likely to be significantly contributed to by premises activities.[14]

We note that in its response to the appeal, DWER advised that, with the exception of Pilbara Ports Authority's Eastern Operations, dust Management Trigger criteria have been applied to all operating licences in Port Hedland. These are for the purpose of instigating immediate investigation of site activities to identify and, if appropriate, address the source of high dust concentrations.

### Licence holder has dust response procedures in place

We understand the licence holder has developed a 'High Dust Alert Response Procedure' to respond to high $PM_{10}$[15] concentrations as recorded at the boundary monitor located adjacent to one of the ship loaders.[16] Once triggered, an alert is sent to site-based personnel, enabling the activation of targeted dust controls. Additional controls are implemented as needed (for example, running more water carts, sprays and cannons during high dust events) and non-essential work that has the potential to emit dust may be ceased if the implementation of additional controls fails to suppress the dust.

[14] Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Section 8.6.4.
[15] Particulate matter with an equivalent aerodynamic diameter of 10 micrometres or less.
[16] Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 7.4.6.

### Conditions applied to port operator licences in Port Hedland generally consistent

As part of our appeal investigation, we compared the conditions on the following licences: L8194/2007/3, L8967/2016/1 (Roy Hill Infrastructure Pty Ltd's Port Bulk Handling Facility and Screening Plant) and L4513/1969/18 (BHP Billiton Iron Ore Pty Ltd's Port Hedland Operations Nelson Point and Finucane Island). We found that while there are site-specific differences between the licences, the conditions on the licences for each of the premises are generally consistent with respect to the management and monitoring of dust emissions, thereby ensuring consistent regulatory outcomes.

In its response to the appeal, DWER advised that while the conditions are largely consistent across Part V licences for other operations in Port Hedland, there is a need for dust controls to vary across operations to account for different handling methods, ore types and characteristics, as well as the proximity of each dust source to sensitive receptors.

We find this approach to condition setting is consistent with DWER's Guidance Statement: Setting Conditions. The guideline states that conditions are to be site-specific, meaning that the unique elements and requirements of each site will be considered when they materially alter the risks of adverse impacts to public health or the environment.

### Additional improvements to the licence recommended

Notwithstanding our finding that the conditions of the licence are generally appropriate, as part of our review of these licences we identified a number of inconsistencies within the licence that should be corrected to remove any uncertainty and provide greater clarity as to what is intended by the conditions. We discussed the identified inconsistencies with DWER and the licence holder and our final recommendations are as follows.

**Table 2** Recommended amendments to conditions

| Condition | Recommended amendment and explanation |
|---|---|
| 10(c) | Amend to clarify the requirement relating to the cessation of dust-generating construction activities: "ceasing all dust-generating construction activities when average wind directions are between 201° and 231° for any three or more ten minute periods during the hour, or between 305° and 340° for any three or more ten minute periods during the hour." |
| 13 | Amend to require an audit of compliance and the preparation and submission of an Environmental Compliance Report:<br>• within 30 days of completion of the works specified in rows 1 to 5 of Table 3<br>• within 30 days of completion of the works specified in row 6 of Table 3<br>• within 30 days of completion of the works specified in row 7 of Table 3<br>• within 30 days of completion of the works specified in row 8 of Table 3. |
| 14 | Amend to require an audit of compliance and the preparation and submission of an Environmental Compliance Report:<br>• within 30 days of completion of the works specified in row 1 of Table 4<br>• within 30 days of completion of the works specified in rows 2 and 3 of Table 4. |
| 15(b) | Amend to include the requirement to demonstrate achievement of no increase in risk to public health, public amenity and the environment (as specified in Condition 12(a)). |

| Condition | Recommended amendment and explanation |
|---|---|
| 27 | Amend Table 6 to remove reference to AS3580.9.11 in rows 1 and 3, column 5. 10-minute averaged data from a Beta Attenuation Monitoring (BAM) is collected from a real-time add-on which cannot comply with Australian Standards. The BAM itself collects 1-hour averaged data and can comply with the standard. |
| 29 | Amend to clarify how the Management Trigger Criteria in column 2 of Table 7 are determined:<br>• Wharf and NE Corner: "…when wind direction is averaged between 201° and 231° for any three or more ten minute periods during the hour…"<br>• SE Corner: "…when wind direction is averaged between 305° and 340° for any three or more ten minute periods during the hour…"<br>• Taplin Street: "…when wind direction is averaged between 201° and 231° for any three or more ten minute periods during the hour…". |
| 40(b) | Amend to remove reference to Condition 7 and replace with the condition that relates to dust control equipment monitoring. |
| 42 | Amend as follows:<br>The Licence Holder must submit to the CEO no later than 1 April each year:<br>(a) a Compliance Report indicating the extent to which the Licence Holder has complied with the Conditions in this Licence for the preceding Annual Period; and<br>(b) a monitoring report providing the results of monitoring and any supporting records, information, reports and data as required by:<br>i. Condition 26 for Moisture Content and DEM level of iron ore received to, and out-loaded from the Premises;<br>ii. Condition 27 for air quality monitoring at Wharf, End of Road, NW Corner, NE Corner, Finucane, SW Corner, SE Corner, TUL SW and TUL SE and meteorological monitoring at TUL Met Station depicted in Schedule 1, Figure 6, in the format specified in Schedule 7;<br>iii. Condition 33 for air quality monitoring at Taplin Street including a comparison of monitoring results against the Air Guideline Value; and<br>iv. Condition 38 for wash water monitoring at L1, L2 and post treatment water contained in the process water tanks shown in the map in Schedule 1, as specified in Table 10. |
| Schedule 4 'Dust Control Validation Report' | Amend Schedule 4 to specify the minimum requirements that should be considered in the experimental design of the dust control validation study. Including for example:<br>• Monitoring setup appropriate for the type of emission source and pollutant type, for example linear (conveyor), averaging period, meteorological monitoring.<br>• Controlled conditions to observe effects of control status (on/off).<br>• Data evaluation to include dust data, materials data (e.g. ore type and moisture levels), meteorological data and operational date (equipment and infrastructure status). |

| Condition | Recommended amendment and explanation |
|---|---|
| | • Evaluation of uncertainty and significance of results using a statistically sound approach. |
| Schedule 5 'Quarterly reporting' | Noting that Schedule 5 relates to the investigation and reporting requirements triggered as a result of Condition 29 (Monitoring and management response), amend 2nd bullet point, sub-bullet point 6 under 'Contents of Report', to remove reference to 'throughput exceedance'. The licence does not include a condition relating to daily throughput and an exceedance of the annual throughput tonnage does not align with the quarterly reporting requirements of Schedule 5. |
| Schedule 6 'Dust Monitoring Report' | Amend the 3rd bullet point, sub-bullet point 2 under the information that the licence holder is required to provide, to remove reference to Table 8, which does not identify Reportable Event Criteria. |

**Incentives for licence holders to meet dust management conditions**

The appellant suggested there needs to be a clear incentive for the licence holder to meet the dust management conditions and a direct consequence, such as the increased tonnage entitlement being withdrawn, in the event that assumed dust management outcomes are not achieved.

The issue of an increase in throughput being conditional on the licence holder demonstrating compliance with conditions in respect to dust emissions as an incentive for the licence holder to improve its practices has been raised in previous appeals relating to a licence amendment for a prescribed premises in Port Hedland.[17]

With respect to those appeals, DWER advised that the intent of throughput conditions is to limit the total annual throughput at a premises to that applied for, assessed and authorised through a licence. The condition limiting throughput is considered a regulatory control.

Other conditions on a licence represent the additional regulatory controls considered appropriate for a licence to manage potential dust emissions. DWER advised it considers that restricting throughput on the basis of non-compliance with other licence conditions is duplicative and that non-compliance with any licence condition will lead to a compliance/enforcement response by DWER.

The then Minister for Environment dismissed the appeals.[18]

We summarise similar recent appeals in Section 3.4.

Noting the rationale has not changed, we accept DWER's position. Consistent with previous decisions we recommend this ground of appeal is dismissed.

[17] Appeals Convenor (2019). Report to the Minister for Environment, Appeals in Objection to the Amendment of a Licence, Licence L4513/1969/18: Port Hedland Operations Nelson Point and Finucane Island. Appeal Number 004 of 2018.
[18] Minister's Appeal Determination (15 April 2019). Appeals against amendment of Licence L4513/1969/18, BHP Billiton Iron Ore Pty Ltd, Port Hedland Operations, Nelson Point and Finucane Island. Appeal Number 004 of 2018.

## 2.2 Did DWER adequately assess impacts of dust emissions on amenity?

Our conclusion is that DWER adequately assessed the impact of dust emissions on amenity. We explain our reasoning below.

### DWER's assessment of amenity

The appellant submitted that DWER failed to reasonably and adequately assess the impact on amenity and did not consider the expectations of the Port Hedland community.

DWER's assessment of amenity in the context of air quality is documented in Section 5.7 of the Decision Report (DWER, September 2020). The risk assessment for impacts of dust emissions to amenity is detailed in Section 7.4 of the Decision Report.

The findings from our review of DWER's risk assessment are in Section 3.5.

In its response to the appeal, DWER advised that due to the subjective nature of the perception of amenity dust impacts, exceedance of the Port Hedland air guideline value (health criterion) is considered a conservative and objective measure to justify additional regulatory controls for dust. Consistent with its Guidance Statement: Risk Assessments, to determine the consequence rating DWER applied the air guideline value at the receptors most affected by the emissions and considered the sensitivity of the receptors. DWER advised that the outcome of the risk assessment required the application of additional regulatory controls for dust.

Based on our review of the available information, we find that DWER adequately considered the impacts of dust emissions on amenity in its assessment of the licence amendment. Noting the subjective nature of dust impacts and that there are currently no criteria for total suspended particulate matter (TSP)[19] or dust deposition[20] that have been established or adopted for Port Hedland, we consider that DWER's determination that exceedance of the Port Hedland air guideline value (health criterion) is a conservative and objective measure to justify additional regulatory controls, is reasonable.

We also note the DWER Chief Executive Officer (CEO) may apply a different criterion for assessment if a suitable alternative is developed in the future. We would expect DWER to regularly review the criteria for the assessment and ensure the most appropriate measure is applied.

### Regulatory controls protective of amenity

DWER advised that the regulatory controls placed on the amended licence are expected to control and minimise all forms of dust (including $PM_{2.5}$,[21] $PM_{10}$ and TSP) from key sources at the premises, not just $PM_{10}$. Regulatory controls for the purpose of preventing and managing dust emissions for the protection of community health are therefore also expected to be protective of amenity.

We accept DWER's position. The adequacy of the additional regulatory controls for the management of dust emissions is considered in Section 2.1.

[19] The total amount of dust particles suspended in the air, including coarser fractions. TSP is used as a metric for determining impacts to amenity but is also comprised of finer particulates that would be classified as $PM_{10}$ and $PM_{2.5}$.
[20] The amount of dust deposited over a set period and area.
[21] Particulate matter with an equivalent aerodynamic diameter of 2.5 micrometres or less.

# 3 Supporting information

## 3.1 Summary of licence history and the current amendment

Fortescue Metals Group Ltd operates the Anderson Point Materials Handling Facility in the port of Port Hedland (Appendix 1, Figure 1), which is a prescribed premises under the EP Act. The premises includes the operation of a rail loop, train unloaders, conveyors, stockyard (including in-load and out-load conveyors, stockpiles, stackers and reclaimers), wharves and shiploaders.

A review of the original licence was undertaken in 2016 as part of a wider review of bulk material loading premises within the port area of Port Hedland. The purpose of this wider review was to apply a risk-based assessment approach consistent with DWER's regulatory framework and to apply a coordinated regulatory approach following the release of the Department of Health's Port Hedland Air Quality Health Risk Assessment for Particulate Matter (January 2016).

The 2016 review did not assess the risks associated with dust emissions from the premises on the grounds of avoiding unnecessary duplication with EP Act Part IV Ministerial Statements 690 (Pilbara Iron Ore and Infrastructure Project: Port and North — South Railway (Stage A)) and 771 (Port Facility Upgrade – Anderson Point, Port Hedland: Dredging and Wharf Construction – Third Berth), which were the primary instruments regulating dust from the premises at that time. On 3 June 2020, Ministerial Statement 1137 was published, changing the implementation conditions so that Condition 17, relating to management of dust emissions, ceased to have effect once dust emissions were licensed under Part V of the EP Act.

On 2 January 2020, the licence holder submitted an application to amend the licence L8194/2007/3 to increase annual throughput for bulk material loading or unloading (prescribed premises Category 58) from 175 Mtpa to 210 Mtpa, an increase of 35 Mtpa. The production increases will be achieved by:

- incorporation of the export of up to 22 Mtpa of magnetite concentrate, sourced from the North Star Mine, received and concentrated at the proposed Iron Bridge Concentrate Handing Facility,[22] from where it will be transferred to the premises for storage and then out-loaded via wharf ship loaders
- incremental increases in the throughput capacity of the existing premises through more efficient utilisation of existing infrastructure
- implementation of expansion works authorised under Works Approval W5643/2014/1 on 18 September 2014 including additional conveyors, a transfer station, a stacker and 2 stockpile rows
- construction of additional infrastructure including conveyors, surge bins, transfer stations and a stacker authorised through the amended licence.

The amendment application also requested changes to the premises boundary.

In considering the licence amendment, DWER assessed the potential risks of dust emissions to the environment, public health and amenity from the existing premises activities and the proposed throughput increases. DWER's assessment is documented in the Decision Report (September 2020).

DWER determined that the overall rating for the risk of cumulative fugitive dust emissions is 'High' when taking into consideration the total throughputs (all ores) handled at the premises.

[22] Authorised for construction through Works Approval W6394/2020/1 on 2 September 2020.

DWER considered that the increase in throughput does not substantially change the risk rating of 'High' associated with existing premises activities.

Following a review of the information provided in the amendment application, including dust modelling information and the licence holder's proposed controls (installation of additional belt wash stations, automation of stockpile water cannons, narrowing of access roads and increased application of chemical dust suppression on site roads), DWER concluded that, while the proposed controls have the potential to reduce dust generated from each targeted source, the assumed degree of effectiveness of each control was not verifiable based on the information provided by the licence holder. DWER therefore determined that the licence amendment could be granted subject to additional regulatory controls to address uncertainties in the modelling and provide increased confidence that there will be 'no net increase' in dust emissions as a result of the increase in throughput.

The licence was amended on 2 September 2020. The amended licence includes additional controls for the prevention, minimisation, monitoring and management of dust. Administrative amendments were also made to the licence.

DWER does not consider that the licence amendment application needs to be re-assessed or that regulatory controls additional to those on the licence are required. In its response to the appeal, DWER advised that its determination was informed by analysis conducted by DWER's air quality experts of emissions estimates used in modelling; data from the licence holder's boundary network; and a review of Port Hedland Industries Council's ambient monitoring network data, including data recorded at monitors located in the West End. Due to errors in the data from the Taplin Street monitor since as early as April 2018, DWER's risk assessment did not consider the data over that period.

The Department recommended that the appeal should be dismissed.

## 3.2 Grounds of appeal and appellant concerns

Ms Taylor raised a number of concerns in her appeal. We have summarised these under 4 key issues in Table 3.

**Table 3** Summary of main concerns raised in the appeal

| Issue | Main concerns raised in the appeal |
|---|---|
| Conditions on amended licence relating to dust monitoring and management are inadequate | • The conditions on the licence are inadequate and unreasonably shift the risk of pollution to the community and environment, rather than the licence holder as the polluter.<br>• Licence conditions should be reviewed to ensure consistency and enforceability, as well as compliance with the precautionary principle.<br>• There needs to be a clear incentive for the licence holder to meet the dust management conditions and a direct consequence, such as a reduction in throughput, in the event that the dust management conditions are not met.<br>• The licence should include conditions requiring:<br>  ○ verification of, and compliance with, the modelling predictions and a reduction in throughput if the predictions are not met<br>  ○ ongoing monitoring of dust levels and proactive reduction in throughput whenever the modelled predictions are not being complied with |

| Issue | Main concerns raised in the appeal |
|---|---|
| | ○ provision of evidence that dust suppression measures are achieving the assumed suppression of dust prior to any increase in throughput<br>○ a self-compliance regime whereby throughput is proactively monitored and managed to ensure dust suppression is achieved on an ongoing basis.<br>• The conditions on the licence should be consistent with the conditions on BHP Billiton Iron Ore Pty Ltd's licence for its Port Hedland Operations (L4513/1969/18) to ensure regulatory consistency. Specifically, the amended licence should specify the management actions to be undertaken in the event dust Management Trigger criteria are exceeded. |
| Inadequate assessment of impact on amenity | • DWER failed to reasonably and adequately assess the impact on amenity, which must be assessed based on the impact on, and the expectations of, the community.<br>• DWER is reliant on the position that public health is of higher sensitivity than amenity values, and that application of health criteria will be protective of amenity, with no evidentiary basis provided to support this. |
| Grant of licence inconsistent with regulatory and policy frameworks | • The amendment is inconsistent with the application of the precautionary principle in the EP Act.<br>• The amendment is inconsistent with DWER's regulatory principles to assess cumulative impacts and to have consistent regulatory outcomes. There should no decision to increase throughput until there has been an appropriate, comprehensive and publicly available cumulative impact assessment.<br>• To permit an increase in throughput prior to finalisation of the Dust Management Guideline is inconsistent with the State Government's response to the Port Hedland Dust Management Taskforce Report and DWER's statements regarding the regulatory strategy for Port Hedland. The amendment should not be allowed until DWER has implemented its regulatory strategy for dust in Port Hedland. |
| Compensation for loss of amenity | • The assessment of amenity did not give adequate consideration to the 'polluter pays' principle in the EP Act. The licence holder should be required to compensate the costs to the community associated with loss of amenity and addressing pollution at properties impacted by dust caused by the licence holder's operations. |

## 3.3 Review of conditions on the amended licence

The focus of our investigation is on whether the conditions applied to the amended licence are appropriate and adequate for the purpose of "prevention, control, abatement or mitigation of pollution or environmental harm" associated with the increase in throughput. The findings from our review are in Table 4.

**Table 4** Review of dust management and monitoring conditions on amended licence L8194/2007/3

| Condition | Description | Consideration |
|---|---|---|
| **Throughput Limits** Condition 18 and **Further Works** Condition 7 (New conditions) | Permit handling of up to 210 Mtpa under a staged approach allowing incremental throughput increases contingent on the installation/ construction of specified infrastructure. | • Infrastructure already authorised for construction under Works Approval W5643/2014/1 is approved for construction through the amended licence. A 5-year limit has been placed on the installation of dust generating infrastructure to ensure the environmental context of Port Hedland can be reinvestigated at a later date in the event that any required or potentially required infrastructure is not built.<br>• The amended licence also authorises the construction of additional dust control infrastructure, including the progressive installation of belt wash stations in support of staged throughput increases at the premises to ensure the volume of dust generated is controlled.<br>• The licence requires the installation of additional belt wash stations at conveyors CV915, CV921, CV944 and CV945 prior to an increase in throughput of hematite ore up to 181 Mtpa. Belt wash stations are equipped with water sprays and scrapers that are designed to reduce the carry-back of ore stuck to the underside of return conveyors.<br>• Installation of additional belt wash stations on conveyors CV916, CV948 and CV911 is required prior to increasing throughput up to 185 Mtpa.<br>• Installation of additional belt wash stations on conveyors CV912, CV922 and CV950 is required prior to increasing throughput up to 188 Mtpa.<br>• Full throughput of 188 Mtpa hematite ore and up to 22 Mtpa of magnetite ore received from the Iron Bridge Concentrate Handling Facility constructed in accordance with Works Approval W6394/2020/1. The full throughput of 210 Mtpa is only permitted once the Iron Bridge Concentrate Handling Facility is operational and 10 belt wash stations are installed.<br>• In its response to the appeal, DWER advised that the licence holder identified the conveyor CV922 as a top 20 dust source at the premises in its emissions estimations, but had not proposed any further control for dust at this source. DWER determined that dust mitigation at this source, in addition to other controls committed to by the licence holder, is necessary to have greater confidence that DWER's regulatory objective of 'no net increase' in dust from the premises will be achieved following an increase in throughputs. |
| **Throughputs** Condition 17 | Prohibits the handling of iron ore at premises at sources that are not | • To avoid an increased risk to the environment or public health from a significant change in the characteristics of the ore handled at the premises, any iron ore from an alternate mine site to those currently supplying the premises and assessed |

| Condition | Description | Consideration |
|---|---|---|
| (New condition) | specified in Schedule 2 that contain specified concentrations of respirable dust, respirable crystalline silica and asbestiform fibres. | through the Decision Report may only be handled at the premises where it meets the minimum iron ore characteristic requirements.<br>• The licence holder is required to maintain accurate and auditable records on any ores handled at the premises from mine sites not specified in Schedule 2 and all analysis conducted to demonstrate compliance with Condition 17. (Condition 40) |
| **Further Works**<br>Condition 12<br>(New condition) | Prohibits the departure from the requirements specified in Table 3 of Condition 7 and Table 4 of Condition 8, except where:<br>• such departure does not increase risks to public health public amenity and the environment<br>• all other conditions on the licence are satisfied. | Where there is a departure from the requirements specified in Table 3 and Table 4 and which is of a type allowed by this condition, the licence holder is required to provide to the CEO a description of, and explanation for, the departure. (Condition 15) |
| **Further Works Written Notification**<br>Condition 13<br>(New condition) | Requires written notification to the CEO of the installation of the specified dust control infrastructure within 14 days of its installation. Within 30 days, undertake an audit of compliance with the requirements in Condition 7, and the preparation and submission to the CEO of an Environmental Compliance Report on that compliance.<br>The minimum requirements for the Environmental Compliance Report are specified. | • The Decision Report states that each throughput increase will only be permitted after the submission of the Environmental Compliance Report.<br>• Written notification of the installation of each stage of the works will ensure that DWER remains informed of progress and can track compliance with throughput limits. |

| Condition | Description | Consideration |
|---|---|---|
| **Validation of Dust Control Infrastructure**<br>Condition 16<br>(New condition) | Requires review of the specified dust control infrastructure (belt wash stations) and submission of a Dust Control Validation Report within 12 months of the submission of the Environmental Compliance Report for the purpose of verifying the assumption of 'no net increase' in dust from the premises. | • Requires targeted dust monitoring to validate the effectiveness of dust controls to increase confidence that these controls are sufficient to ensure 'no net increase' in dust concentrations and in turn validate the conclusions of the dust modelling. To validate effectiveness, the licence holder will need to monitor dust concentrations up and downwind of the control equipment during on and off scenarios and when handling a variety of ore types. In the event that validation monitoring does not confirm the effectiveness of these controls, DWER may consider initiating an amendment to the licence to require additional dust controls (for example, belt wash stations installed at additional conveyor locations).<br>• Schedule 4 'Dust Control Validation Report' specifies the minimum information to be included in the Dust Control Validation Report. This includes:<br>○ information on statistical tests or other procedures adopted to ensure the data used in final emissions estimations are robust, or that uncertainty is properly understood and accounted for<br>○ a comparison of measured emissions reduction when dust controls are operating against modelled rates of emissions reduction to validate the conclusions of the dust model. |
| **Further Works**<br>Condition 8 | Authorises the construction/installation of specified additional dust control infrastructure (belt wash stations, surge bins and out-load conveyors) if required. | Authorises the construction of additional dust control infrastructure if it is determined by the licence holder and/or DWER that the objective of 'no net increase' in dust emissions is not achieved following additional iron ore handling throughputs up to 210 Mtpa. |
| **Further Works Written Notification**<br>Condition 14<br>(New condition) | Requires written notification to the CEO of the installation of the specified additional dust control infrastructure within 14 days of its installation. Within 30 days, undertake an audit of compliance with the requirements in Condition 8, and the preparation and submission to the CEO of an Environmental Compliance Report on that compliance. | We note the licence holder is not required to undertake a review of effectiveness of the additional dust control infrastructure and is not required to submit a Dust Control Validation Report. |

| Condition | Description | Consideration |
|---|---|---|
| | The minimum requirements for the Environmental Compliance Report are specified. | |
| **Further Works Construction Activities**<br>Conditions 10 and 11<br>(New conditions) | Require dust control during construction activities associated with the infrastructure specified in Conditions 7 and 8. | • Large scale construction is not a normal activity for the premises and has the potential to increase dust risks if not managed appropriately.<br>• Where visible dust is generated from construction the licence holder is required to:<br>○ implement controls to minimise dust emissions from construction activities<br>○ cease all dust-generating construction activities during strong wind conditions (greater than 14 metres/second)<br>○ cease all dust-generating construction activities where average wind directions are between 201° and 231° or between 305° and 340° for 3 or more 10 minute periods during the hour. The specified meteorological conditions place West End and South Hedland receptors downwind of the premises.<br>• The licence holder must take proactive dust management measures where possible to prevent dust generation, includes as a minimum, wetting down of exposed areas prior to construction and/or clearing activities that involve ground disturbance and as needed to meet the above requirement. |
| **Infrastructure and Equipment**<br>Condition 3<br>(New condition) | Requires dust control infrastructure and equipment to be available at an average monthly availability rate at or above 90% when that equipment is required to be operational in accordance with the licence. | • The requirement applies to dust control infrastructure/equipment (water sprays on stackers, reclaimers and shiploaders; stockyard water cannons; transfer stations and conveyor dust suppression sprays; and belt wash stations).<br>• There are also conditions on the licence requiring that the specified infrastructure and equipment is maintained in good working order, a Dust Control Equipment Inventory is maintained, and that dust control equipment cannot be removed from the inventory without replacement by equipment that provides the same or greater level of dust mitigation.<br>• The licence holder must maintain a record of maintenance inspections of all equipment specified in the Dust Control Equipment Inventory, including identification of the dates and duration of any of any dust control equipment not operating effectively. From 1 July 2021, the licence holder must be able to accurately record average monthly availability rates using an operational tracking system. (Condition 6)<br>• These controls require the continued use of dust control infrastructure and equipment and ensure regulatory oversight. |

| Condition | Description | Consideration |
|---|---|---|
| **Moisture Content Monitoring and Management**<br>Conditions 19 to 26<br>(New conditions) | Require ongoing moisture content monitoring and management of iron ore in-loaded, stockpiled and out-loaded at the premises. | • At least 90% of hematite iron ore in-loaded to the premises must have a moisture content at or above the DEM (dust extinction moisture) level to reduce the potential for generation of fugitive dust during handling and stockpiling. The lower required rates of ore moisture meeting DEM compared to other operators in Port Hedland is due to the required improvements to ore moisture, additional dust controls applied through the licence amendment and the premises greater distance to sensitive receptors.<br>• 100% of ore received from the Iron Bridge Concentrate Handling Facility premises must have a moisture content at or above the DEM level.<br>• Until 30 June 2022, at least 95% of iron ore out-loaded from the premises (averaged per cargo hold) must have a moisture content at or above the DEM level; this increases to 99% of iron ore out-loaded after 1 July 2022. Shiploading infrastructure is the closest potential source of dust to residential receptors and ore conditioning is the primary control to minimise dust emissions. Ore blending is used by the licence holder to achieve a greater rate of adequately conditioned ore at load-out versus in-load.<br>• There are restrictions on the licence to limit the time that iron ore is held at the premises without the licence holder being required to apply additional measures to suppress dust (static stockpile management).<br>• DWER considers that maintaining ore moisture above the DEM level is a key control for the management of dust emissions when handling and stockpiling iron ore, but notes there remains the potential for dust emissions from the premises and it cannot be used as a stand-alone control for the management of dust. |
| **Boundary Air Quality Monitoring**<br>Condition 27<br>(New condition) | Requires ongoing monitoring of air quality at the premises. | • Monitoring of $PM_{10}$ concentrations is required at 9 'real time' boundary monitors located adjacent to key dust sources, including the stockyard, train uploaders and shiploading infrastructure.<br>• Meteorological (rainfall, wind direction and wind speed) monitoring is required at 1 station on the premises.<br>• Monitoring is required to be undertaken in accordance with methods for sampling and analysis of ambient air specified in relevant Australian Standards. |
| **Dust Deposition Monitoring** | Requires dust deposition monitoring and dust speciation analysis at the premises. | • Where a distinctive material is only being handled at a specific premises, dust speciation has the potential to be used for source attribution, so dust derived from this source can be distinguished from other dust sources. Currently, this is the case for magnetite ore at Port Hedland, which will only be handled at the Iron Bridge Concentrate Handing Facility and the Anderson Point Materials Handling Facility. |

| Condition | Description | Consideration |
|---|---|---|
| Condition 34<br>(New condition) | | The analysis will be able to determine the presence and proportions of hematite, goethite and magnetite in a depositional dust sample.<br>• Particulate monitoring cannot easily attribute dust to specific sources.<br>• The licence holder is required to install dust deposition gauges at least 12 months prior to the first receipt of magnetite ore at the premises. (Condition 9)<br>• Monitoring of dust deposition (total mass and deposition rate) and composition (total crystalline material, mineral phases, combustible material/ash and total elemental analysis) is required at 7 locations (at and near the premises and an offsite location). Data review will inform whether additional monitoring locations at varying distances to the premises need to be considered.<br>• Monitoring will assist in informing on the level of emissions and impacts from the premises, providing an additional safeguard to ensure that the predicted 'no net increase' in dust emissions is being achieved.<br>• Dust deposition data must be submitted to the CEO on a quarterly basis. (Condition 37) |
| **Dust Monitoring Report**<br>Condition 36<br>(New condition) | Requires submission of a Dust Monitoring Report to the CEO within 15 months of the installation of the infrastructure specified in Condition 7. | • Schedule 6 'Dust Monitoring Report' specifies the minimum requirements for the Dust Monitoring Report. The report is required to include:<br>○ an analysis of $PM_{10}$ data from the premises monitoring stations over a period of at least 12 months prior to and 12 months after the installation of the specified dust control infrastructure<br>○ an analysis of $PM_{10}$ monitoring station data with associated weather data and spatial data (location of monitor and locations of dust sources)<br>○ an analysis of $PM_{10}$ monitoring station data in comparison with concentrations at ambient monitors at Richardson Street, Kingsmill Street, Taplin Street and South Hedland where there are exceedances of the Port Hedland air guideline value at the Richardson Street, Kingsmill Street and Taplin Street monitors and Reportable Events.<br>• The information in the report will be used to determine whether the objectives of boundary monitoring relating to $PM_{10}$ emissions are being met. The information will also be used to verify the setup and location of the monitoring stations in terms of their effectiveness in providing data that captures premises' dust source emissions, including the effects of dust control actions in response to elevated dust concentrations, as well as their usefulness for evaluating premises' dust contributions to ambient concentrations. The information will also support the |

| Condition | Description | Consideration |
|---|---|---|
| | | evaluation of appropriate trigger levels as Management Trigger and Reportable Event criteria. |
| **Schedule 5 'Quarterly reporting'** | Outlines the investigation and reporting requirements triggered when there is an exceedance of Reportable Event criteria. | Information provided following Reportable Events at boundary monitors and at Taplin Street will assist DWER to identify the possible source(s) of dust, which will assist compliance activities and future risk-based decision-making. |

## 3.4 Summary of current and recent similar appeals in Port Hedland

### Current appeals

Two appeals in objection to an amendment of licence L8967/2016/1, Roy Hill Port Bulk Handling Facility and Screening Plant, Roy Hill Infrastructure Pty Ltd (Appeal Numbers 063.001–002 of 2020) are currently being investigated on behalf of the Minister for Environment.

### Recent previous appeals

There have been 3 recent appeals in objection to amendments of licences for prescribed premises in Port Hedland:

- amendment of licence L8937/2015/1, Utah Point Multi-User Bulk Handling Facility, Pilbara Ports Authority (Appeal Numbers 029.001–002 of 2020)
- amendment of licence L4513/1969/18, Port Hedland Operations, Nelson Point and Finucane Island, BHP Billiton Iron Ore Pty Ltd (Appeal Number 004 of 2018)
- amendment of licence L4432/1989/14, Eastern Operations, Port Hedland, Pilbara Ports Authority (Appeal Numbers 007 and 011 of 2018).

The main concerns raised in the 2020 appeals included:

- the removal of the 'Material Change conditions' and associated provisions from the licence
- the adequacy of the conditions relating to dust monitoring and management and that the licence should include a requirement to undertake the LiDAR monitoring
- the adequacy of DWER's risk assessment for dust emissions.

The appellants also raised other issues relating to the loss of property value and property buy-back, and consideration of economic surrounds.

The Minister for Environment dismissed the appeals.

The main concerns raised in the 2018 appeals included:

- The adequacy of DWER's assessment of the risks posed by dust emissions and whether the licence should have been amended if there were public health concerns. Specific issues included inadequate consideration of the findings from DWER's Port Hedland LiDAR campaign; application of the interim air guideline value and insufficient consideration of the National Environment Protection (Ambient Air Quality) Measure; and concerns about $PM_{2.5}$ and asbestos.
- DWER had not applied adequate conditions to the licence in relation to the management and monitoring of dust emissions. Specific issues included the application of LiDAR monitoring; authorised emissions; bulk material specifications; dust control equipment; moisture content requirements; and dust monitoring.

'Other matters' raised in these appeals included: requirements for the licence holder to compensate cleaning costs; residential planning constraints; property purchases in the West End; enforcement of licence conditions and penalties for non-compliance; and differences between licences recently granted for similar operations.

The then Minister for Environment dismissed the appeals.

See www.appealsconvenor.wa.gov.au for the appeal reports and the Minister's appeal determinations.

## 3.5 Review of DWER's assessment of amenity

On the basis of the information provided in DWER's Decision Report, we note:

- The assessment of amenity is considered by DWER to be intrinsically subjective and best assessed against community expectations, reasonably held for that community and at that point in time.
- Based on the receipt of stakeholder complaints and concerns (through submissions to industry expansion applications and complaints) relating to amenity impacts from dust, DWER concluded that the Port Hedland community is sensitive to existing ambient dust levels affecting amenity.
- Potential impacts on amenity that have been identified include the deposition of particulate matter on vehicles, clothing, private infrastructure and equipment, resulting in discomfort and/or soiling and staining. There may also be some disturbance to visual amenity from dust plumes.
- There are no site-specific criteria for the most common measures of amenity impacts (TSP and dust deposition) established or adopted for Port Hedland (or the coastal Pilbara region) to quantify the point at which amenity impacts may be perceived. There is considerable variability in the amenity criteria applied by other jurisdictions. Alternative criteria used by DWER include complaints (number and nature) as well as stakeholder and community submissions.
- DWER considers that the application of the Port Hedland air guideline value (health criterion) will also be protective of amenity impacts, especially given that public health is of higher sensitivity than amenity value, noting the subjectivity associated with rating amenity values.
- The overall rating for the risk of dust emissions from the premises impacting the health and amenity of sensitive receptors in both Port Hedland and South Hedland, including the Esplanade and Pier Hotels, is 'High'. This is the second highest risk category in DWER's risk assessment matrix and DWER's Guidance Statement: Risk Assessments states that this risk rating may be acceptable subject to multiple regulatory controls.
- The overall rating of 'High' is derived from a consequence of 'Major' and a risk event likelihood of 'Possible'. This is on the basis that there may be a high level of impact to amenity experienced by residents and businesses in the West End as a result of dust levels and the premises contributes to cumulative levels of dust in the West End; and that the risk event could occur at some time.
- DWER determined that wind vectors from the south-southwest to west-southwest place residential receptors in the West End downwind of the premises activities approximately 13% of the time.[23] Winds between the north, east and south vectors are expected to remove the pathway for dust emissions to West End receptors the majority of the time.

## 3.6 Other issues

The appellant's remaining concerns are beyond the appeal scope. For completeness we have outlined the appellant's concerns here. We acknowledge the appellant's concerns,

[23] Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 6.6.1.

however we have not considered them further because these matters are beyond the appeal scope.

### Compensation for loss of amenity

The appellant submitted that the assessment of amenity has not given adequate consideration to the polluter pays principle under the EP Act. This means property owners are meeting the costs of addressing pollution at properties impacted by dust. The appellant submitted there should be a condition on the licence to appropriately address this issue.

The issue of a condition being applied to a licence to require the licence holder to compensate residents for the costs of cleaning dust and installing (including retrofitting) and maintaining air conditioning, air cleaning and dust mitigation equipment, has been raised in previous appeals relating to a licence amendment for a prescribed premises in Port Hedland.[33]

In response to those appeals, DWER advised that the provision of compensation is considered to be beyond the scope of environmental regulation under Part V of the EP Act.

The then Minister for Environment dismissed the appeals, noting that other matters raised in the appeals (including compensation for cleaning costs by the licence holder), are considered beyond the scope of the right of appeal.[34]

We summarise similar recent appeals in Section 3.4.

[33] Appeals Convenor (2019). Report to the Minister for Environment, Appeals in Objection to the Amendment of a Licence, Licence L4513/1969/18: Port Hedland Operations Nelson Point and Finucane Island. Appeal Number 004 of 2018.
[34] Minister's Appeal Determination (15 April 2019). Appeals against amendment of Licence L4513/1969/18, BHP Billiton Iron Ore Pty Ltd, Port Hedland Operations, Nelson Point and Finucane Island. Appeal Number 004 of 2018.

# Appendix 1 Site map

This appendix shows the following map:

| Fig | Details | Source |
|---|---|---|
| 1 | Location of Category 58 licensed premises in Port Hedland. | Google Maps 2021 |

**Figure 1** Site location

# Appendix 2 Appeal process

### The Minister assesses the merits of a decision

Environmental appeals follow a merits-based process. This means the Minister can consider all the relevant facts, legislation and policy aspects of the decision and decide whether it was correct and preferable.

However, for appeals relating to a licence amendment, the Minister can only consider matters directly linked to the amendment. Appeal rights do not extend to parts of the licence that were not amended.

A merits review cannot overturn the original decision to grant a licence. But if the appeal is upheld, the licence conditions might change or an amendment might not go ahead.

### We report to the Minister, as does the decision-making authority

To decide an appeal's outcome, the Minister for Environment must have a report from both:
- the Appeals Convenor [see section 109(3) of the EP Act], and
- the authority that originally made the decision under appeal [see section 107(1)].

To properly advise the Minister, our investigation included:
- reviewing DWER's report and responses from the licence holder
- meetings with Ms Taylor and her representative on 22 December 2020 and with representatives from Fortescue Metals Group Ltd on 22 December 2020
- reviewing other information, policy and guidance as needed.

See Table 5 for the documents we considered.

**Table 5** Documents we reviewed in the appeal investigation

| Document | Date |
|---|---|
| DWER. Guidance Statement: Setting Conditions. Part V, Division 3, *Environmental Protection Act 1986* | October 2015 |
| Australian Government, National Environment Protection (Ambient Air Quality) Measure and Explanatory Notes | February 2016 |
| Department of Health. Port Hedland Air Quality Health Risk Assessment for Particulate Matter | January 2016 |
| Department of State Development. Port Hedland Dust Management Taskforce Report to Government | August 2016 |
| DWER. Guidance Statement: Risk Assessments. Part V, Division 3, *Environmental Protection Act 1986* | February 2017 |
| DWER. Regulatory best practice principles | September 2018 |
| Department of Jobs, Tourism, Science and Innovation. Port Hedland Dust Management Taskforce Report. Government response | October 2018 |

| Document | Date |
|---|---|
| Department of Jobs, Tourism, Science and Innovation. Port Hedland Dust Management Taskforce Report. Government response. Frequently Asked Questions | October 2018 |
| DWER and Department of Health. Managing dust in Port Hedland. Industry Regulation fact sheet | 2018 |
| DWER. Guideline: Industry Regulation Guide to Licensing. Activities regulated under the *Environmental Protection Act 1986* and Environmental Protection Regulations 1987 | June 2019 |
| Fortescue Metals Group Ltd. Licence Amendment – Supporting Document. Anderson Point Materials Handling Facility | December 2019 |
| DWER. Application for Licence Amendment L8194/2007/3. Licence and Decision Report | September 2020 |
| DWER. Community updates. Port Hedland [https://www.der.wa.gov.au/our-work/community-updates/435-port-hedland] | October 2020 |
| DWER. Response to appeal 046/20 | November 2020 |
| Fortescue Metals Group Ltd. Response to appeal 046/20 | November 2020 |
| DWER. Compliance and Enforcement Policy | November 2020 |
| DWER. Guideline: Regulatory principles. Activities regulated under the *Environmental Protection Act 1986*, Part V: effective and efficient regulation | December 2020 |
| DWER. Guideline: Risk assessments. Part V, Division 3, *Environmental Protection Act 1986* | December 2020 |
| DWER. Guideline: Environmental siting. Part V, Division 3, *Environmental Protection Act 1986* | December 2020 |
| DWER. Guideline: Decision making. Activities regulated under Part V, Division 3, *Environmental Protection Act 1986* | December 2020 |
| Recent DWER Decision Reports for other bulk handling premises in the port of Port Hedland | Various. Details provided in footnotes. |
| Previous Appeals Convenor reports to the Minister for Environment and the Minister for Environment's Appeal Determinations | Various. Details provided in footnotes. |