



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

# Appeals Convenor's Report to the Minister for Environment

Appeals objecting to a licence amendment: L8967/2016/1  
Roy Hill Port Bulk Handling Facility and Screening Plant



<b>Appellants</b>	Mr Charles and Ms Roseanne Oliveri Ms Lynnette Taylor
<b>Licence holder</b>	Roy Hill Infrastructure Pty Ltd
<b>Authority</b>	Department of Water and Environmental Regulation (DWER)
<b>Appeal No.</b>	063.001–002 of 2020
<b>Date</b>	July 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.

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# 1 Executive summary

## 1.1 Decision under appeal

Roy Hill Infrastructure Pty Ltd holds Licence L8967/2016/1 for the Roy Hill Port Bulk Handling Facility and Screening Plant in the port of Port Hedland (Figure 1). The Department of Water and Environmental Regulation (DWER) amended the licence on 11 December 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 60 million tonnes per annum (Mtpa) to 70 Mtpa and an increase in processing capacity at the screening plant from 33 Mtpa to 38 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 appellants are Ms Roseanne and Mr Charles Oliveri, and Ms Lynnette Taylor. Broadly, the appellants disagree with the amendment to the licence to allow an increase in iron ore throughput and consider the conditions relating to dust management and monitoring are inadequate.

The appellants' main concerns are summarised under 3 grounds of appeal in Table 1.

A more detailed summary of the appellants' concerns is provided in Section 3.2.

**Table 1** Grounds of appeal

Issue	Concerns raised in the appeals
Dust emissions	<ul style="list-style-type: none"><li>Increased throughput in iron ore should not have been permitted, as the conditions relating to dust management and monitoring are inadequate.</li><li>DWER has not appropriately considered cumulative impacts or applied a precautionary approach..</li></ul>
Inadequate assessment of impact on amenity	<ul style="list-style-type: none"><li>DWER failed to adequately assess the impact on amenity from dust emissions and is reliant on the position that health criteria will be protective of amenity, with no evidentiary basis provided to support this.</li></ul>
Compensation for loss of amenity	<ul style="list-style-type: none"><li>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 costs associated with loss of amenity.</li><li>Conditions should be applied to require compensation of residents.</li></ul>

## 1.3 Key issues and conclusions

From the appellants' concerns, we have identified that the 2 issues at the heart of the appeals relate to the control of dust emissions and impacts to amenity. We summarise our conclusions for these issues below. Section 2 of this report then details our reasoning and Section 3 provides supporting information.

The other issues raised are 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 L8967/2016/1, 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 are generally appropriate and directed toward 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 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 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 increase in dust emissions is not being met.

As the specified contingency measures are a key control, it is recommended that the appeals 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 the licence is amended to require the licence holder to review the dust control infrastructure specified in row 3 of Table 3 (Condition 13), and prepare and submit a Dust Control Validation Report with the information specified in Schedule 5, within 12 months of the submission of the Environmental Compliance Report for that

infrastructure. This is consistent with the verification requirements for the infrastructure specified in rows 1 and 2 of Table 3 (Conditions 17 and 18).

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 1 in Section 2.1.

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

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

## 2 Reasons for recommendation

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

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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

One of the appellants 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. Additionally, two of the appellants submitted that dust emissions should be controlled to the National Environment Protection (Ambient Air Quality) Measure (NEPM). They also submitted that any licence increases should be halted or restricted until air quality measurements are within the NEPM Standard, not the Port Hedland air guideline value.

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<sub>10</sub> of 70 µg/m<sup>3</sup> (excluding natural events) in all residential areas.<sup>1</sup> 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.<sup>2</sup>

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<sup>3</sup> and recently published its Port Hedland Regulatory Strategy<sup>4</sup> (the Strategy). The Strategy include 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.<sup>5</sup> Applicants are required to demonstrate

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<sup>3</sup> DWER's regulatory role, Community Updates. Port Hedland (DWER, October 2020).

<sup>3</sup> DWER's regulatory role, Community Updates. Port Hedland (DWER, October 2020).

<sup>3</sup> DWER's regulatory role, Community Updates. Port Hedland (DWER, October 2020).

<sup>4</sup> Port Hedland Regulatory Strategy, DWER 2021.

<sup>5</sup> Interim regulatory approach, Managing dust in Port Hedland. Industry Regulation fact sheet (DWER and Department of Health, 2018).



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:

- 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 control is implemented.
- DWER considered there is a significant level of uncertainty associated with the dust modelling outputs and the assumed effectiveness of the licence holder's proposed control, to confidently determine that 'no net increase' in dust emissions from the premises will be achieved.<sup>8</sup>
- 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 control.

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.<sup>9</sup>

We note the issue of the application of the NEPM, rather than the Port Hedland air guideline value, has been raised in previous appeals relating to licence amendments for prescribed premises in Port Hedland.<sup>10</sup> The then Minister for Environment dismissed the appeals, which are summarised in Section 3.4.<sup>11</sup>

We accept the findings of previous appeals and are of the view it was reasonable for DWER to continue to apply the endorsed guideline value in its assessment.

## **Regulatory and policy frameworks**

One of the appellants 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,

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<sup>8</sup> Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Sections 6.1, 8.1.4, 8.5 and 8.6.

<sup>9</sup> Port Hedland Regulatory Strategy, DWER 2021.

<sup>10</sup> 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; Appeals Convenor (2019). Report to the Minister for Environment, Appeals in Objection to the Amendment of a Licence, Licence L4432/1989/14: Eastern Operations, Port Hedland. Appeal Numbers 007 and 011 of 2018.

<sup>11</sup> 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; Minister's Appeal Determination (15 April 2019). Appeals against amendment of Licence L4432/1989/14, Pilbara Ports Authority, Eastern Operations, Port Hedland. Appeal Numbers 007 and 011 of 2018.



supported by various guidance statements which 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.<sup>12</sup> 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.<sup>13</sup> The modelling included emissions from the Pilbara Ports Authority Utah Point operations (21 Mtpa), BHP Billiton Iron Ore Pty Ltd operations at Nelson Point and Finucane Island (290 Mtpa), Fortescue Metals Group Ltd Pty Ltd operations (210 Mtpa) and the proposed North West Infrastructure operations in South West Creek (50 Mtpa).<sup>14</sup>

We note that in its response to the appeals, 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**

One of the appellants 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 submitted that any increase in throughput should only be permitted once it is demonstrated the dust suppression methods achieve the assumed outcomes.

The other appellants consider that the licence conditions have failed to achieve acceptable dust management and pollution is having a detrimental effect on the health of the local population, with no penalties to industry. The appellants have no confidence that conditions on the amended licence will be effective or that industry will be held to account if conditions are breached.

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 presented 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 iron ore throughput to 65 Mtpa and prior to increasing throughput beyond 65 Mtpa up to 70 Mtpa.

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<sup>12</sup> Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Section 8.

<sup>13</sup> Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Section 6.1.

<sup>14</sup> Roy Hill Infrastructure – Port Operating Licence Amendment Application – Increase in Export (Roy Hill Infrastructure Pty Ltd, May 2020), Section 9.1.

- 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.
- Additional dust control infrastructure (a third belt wash station) is required to be installed in the event that validation does not identify the same level of effectiveness as presented in the licence holder's dust modelling.
- We note there is no requirement for the licence holder to validate the effectiveness of the third belt wash station 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.

Our recommended amendments are detailed in Section 1.4 above.

### **Air quality monitoring is a requirement on the licence**

The appellants submitted that the licence holder should be required to undertake air quality monitoring at the premises boundary to identify the source of Management Trigger criteria exceedances and to detect dust emissions that may impact on local residents.

We find that Condition 20 specifies the requirements for boundary air quality monitoring. Continuous real-time monitoring is conducted at 4 boundary monitors using Beta Attenuation Monitors (BAMs) that measure PM<sub>10</sub>.<sup>16, 17</sup> The licence holder also operates 2 E-samplers for campaign dust monitoring and source identification, as well as a meteorological station.

### **Failures in the ambient air quality monitoring network**

Two of the appellants noted there have been critical failures resulting in missing data in the ambient air quality monitoring network. They suggested that an independent body, funded by industry, should be responsible for the monitoring and reporting on dust emissions.

We understand that ambient air quality monitoring is undertaken at a network of monitoring stations in and around the residential (including at Richardson Street, Kingsmill Street and Taplin Street in the West End), industrial, commercial and airport precincts of Port Hedland. The network was established by the Port Hedland Industries Council and an independent consultant is employed to manage and maintain the monitoring network. As part of the State Government's response to the Port Hedland Dust Management Taskforce Report, the operation and maintenance of the air quality monitoring network will be transferred to DWER.<sup>18</sup>

Based on the available information, we find:

<sup>16</sup> Particulate matter with an equivalent aerodynamic diameter of 10 micrometres or less.

<sup>17</sup> Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Section 8.1.3.

<sup>18</sup> Port Hedland Dust Management Taskforce Report. Government response (Department of Jobs, Tourism, Science and Innovation, October 2018).

- DWER has undertaken a ‘strengths and limitations’ audit of the air monitoring network and has engaged with industry and the community on the existing network and how the future network could best inform stakeholders.<sup>19</sup>
- DWER considers that the monitoring network is generally satisfactory with respect to both the methods and equipment used, but that there may be opportunities for improvements in the siting of the monitors.<sup>20</sup>
- As part of taking over the ambient air quality monitoring network, DWER will review the network to ensure it complies with Australian Standards and that ongoing data collection adequately represents ambient conditions.<sup>21</sup>
- Once the monitoring network has been transferred to DWER, it will publish real-time monitoring data on its website, with trends and further analysis reported annually.<sup>22</sup>
- DWER anticipates that issues associated with faults with the monitoring equipment will be identified and resolved quicker when it has greater oversight of the monitoring data.<sup>23</sup>

We also understand that, in accordance with the ‘polluter pays principle’, costs associated with the operation and maintenance of the monitoring network will be met by port operators licensed under Part V of the EP Act for bulk material loading or unloading.

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

An 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 include a requirement for the licence holder to implement immediate dust abatement measures, which may include ceasing or changing iron ore handling.

We find that:

- Dust Management Trigger and Reportable Event criteria are specified in Condition 21 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 22, 23 and 24).
- 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 at the specified premises monitoring locations or the Taplin Street monitor, operate all stockyard water cannons on deluge cycle; apply water to all

<sup>19</sup> Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 5.3.1.

<sup>20</sup> Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 5.3.1.

<sup>21</sup> Ambient air quality monitoring network, Managing dust in Port Hedland. Industry Regulation fact sheet (DWER and Department of Health, 2018).

<sup>22</sup> Ambient air quality monitoring network, Managing dust in Port Hedland. Industry Regulation fact sheet. (DWER and Department of Health, 2018).

<sup>23</sup> Application for Licence Amendment L8194/2007/3. Decision Report (DWER, September 2020), Section 5.3.1.

unsealed trafficable areas where vehicle movement has occurred in the previous hour; and operate transfer station and conveyor dust suppression sprays on all operating equipment.

- 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 activities at the premises.<sup>24</sup>

We note that in its response to the appeals, 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.

### **DWER amended Management Trigger criteria**

In assessing the licence amendment, DWER noted that the Management Trigger criteria on the existing licence were less protective of Port Hedland residents in the western sections of the West End, particularly from emissions generated along the wharf and shiploader which are the closest dust sources to residents.<sup>25</sup> DWER has determined a 'High' dust risk associated with the premises activities and, given the potential for higher concentrations of finer dust particles being emitted as a result of throughput expansions at the Roy Hill Mine Magnetic Separation Plant, determined that additional management action is required to reduce impacts to West End residents from peaks in dust emissions.

We note that as a consequence of DWER's determination, the following changes were incorporated into the amended licence:

- The wind arcs at boundary dust monitors specified in Management Trigger criteria and Reportable Event criteria were widened to incorporate fluctuations in wind direction during the travel time between source and receptor, increasing the frequency of additional dust management being implemented and reducing the likelihood of high dust events in the West End that are contributed to by the premises.
- Management responses are required where visible dust is identified along the South West Creek Berths and wind direction places West End residents downwind.

### **Licence holder has dust response procedures in place**

In its licence amendment application, the licence holder states that an exceedance of the Management Trigger criteria or Reportable Event criteria triggers its 'Assessment of Port Dust Events Specification Process'. Any exceedance is raised as an incident in the licence holder's Incident Management System, and each exceedance is investigated, corrective actions identified and implemented.

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

As part of our appeals investigation, we compared the conditions on the following licences: L8967/2016/1, L8194/2007/3 (Fortescue Metals Group Ltd's Anderson Point Materials

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<sup>24</sup> Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Section 8.6.4.

<sup>25</sup> Application for Licence Amendment L8967/2016/1. Amendment Report (DWER, December 2020), Section 8.6.3.

Handling Facility) 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 appeals, 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
21	<p>Amend to clarify how the Management Trigger criteria in column 2 of Table 5 are determined:</p> <ul style="list-style-type: none"> <li>DM2, DM5 and/or DM6: "...when wind direction is averaged between 205° and 250° for any three or more ten minute periods during the hour..."</li> <li>DM3, DM4, DM5 and/or DM6: "...when wind direction is averaged between 295° and 325° for any three or more ten minute periods during the hour..."</li> <li>Taplin Street: "...when wind direction is averaged between 230° and 250° for any three or more ten minute periods during the hour..."</li> </ul>
26	<p>Amend to clarify that a Dust Monitoring Report is required within 15 months of the installation of the infrastructure specified in rows 1 and 2 of Table 3, and, if required, the installation of the infrastructure specified in row 3 of Table 3 (Condition 13). Noting that row 3 relates to infrastructure that is to be installed "only if required and in accordance with Condition 19".</p>
34	<p>Amend as follows: "The licence holder must maintain accurate and auditable Books in relation..."</p> <p>The first part of the condition will then be consistent with the second part of the condition, which sets out the requirements relating to Books.</p> <p>'Books' should also be defined in the licence as having the same meaning given to the term under the EP Act.</p>
34(c)	<p>Amend to replace the reference to Condition 22 (which relates to dust management responses) with the condition relating to ambient air quality monitoring.</p>

Condition	Recommended amendment and explanation
36(b)(ii)	Amend to reflect that meteorological monitoring is undertaken at 'Port AWS', consistent with the name of the monitoring location in Table 4 and Schedule 1, Figure 2.
36(b)(iii)	Amend to replace the reference to Condition 25 with the condition relating to ambient air quality monitoring at Taplin Street and replace the reference to column 4 of Table 6 with the table that specifies the interim guideline against which the monitoring results from the Taplin Street monitor are to be compared.
Schedule 6 'Dust Monitoring Report'	Amend to replace the reference to Condition 25 with the condition that specifies the requirement for the Dust Monitoring Report.

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

An 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 appellant submitted that conditions such as these places the risk with the polluter and mean the polluter is incentivised to manage the risk, rather than it being placed on the community.

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 licence amendments for prescribed premises in Port Hedland.<sup>26</sup>

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.<sup>27</sup>

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.

<sup>26</sup> 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.

<sup>27</sup> 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

An 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 first assessed the risks of dust emissions from the premises in 2018 as part of the licence holder's application to increase throughput to 60 Mtpa. DWER's assessment of amenity in the context of air quality is documented in Section 4.9 of the Decision Report (DWER, December 2018). 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 appeals, DWER advised that due to the subjective nature of the perception of amenity dust impacts and the absence of any specific amenity criteria for Port Hedland, exceedance of the Port Hedland air guideline value (health criterion) is considered a conservative and objective measure. 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 amenity values and that there are currently no criteria for total suspended particulates (TSP)<sup>28</sup> or dust deposition<sup>29</sup> 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<sub>2.5</sub>,<sup>35</sup> PM<sub>10</sub> and TSP) from key sources at the premises, not just PM<sub>10</sub>. 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.

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<sup>28</sup> 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<sub>10</sub> and PM<sub>2.5</sub>.

<sup>29</sup> The amount of dust deposited over a set period and area.

<sup>35</sup> Particulate matter with an equivalent aerodynamic diameter of 2.5 micrometres or less.

## 3 Supporting information

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### 3.1 Summary of licence history and the current amendment

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Roy Hill Infrastructure Pty Ltd operates the Roy Hill Port Bulk Handling Facility and Screening Plant 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 stockyard facility, rail loop, conveyor system, wharf and ship loading facility.

The licence was first granted on 19 September 2016 following an assessment of the environmental risks associated with the premises 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 Statement 858 (Roy Hill 1 Iron Ore Project, Port Infrastructure Port Hedland), which was the primary instrument regulating dust from the premises at that time. At the time of issuing the licence, Ministerial Statement 858 was the primary regulatory instrument regulating dust from the premises. On 12 October 2018, Ministerial Statement 1084 was published, changing the implementation conditions so that Condition 6, relating to management of dust emissions, ceased to have effect once dust emissions were licensed under Part V of the EP Act.

On 25 October 2017, the licence holder submitted an application to increase the volumes of iron ore products handled at the premises. DWER assessed the potential risk of dust from proposed and existing premises activities impacting the health and amenity of sensitive receptors in Port Hedland and South Hedland. The licence was amended on 3 December 2018 to authorise an increase in throughput from 55 Mtpa to 60 Mtpa and to incorporate dust management and monitoring conditions. DWER's assessment is documented in the Decision Report (December 2018).

Further amendments to the licence were made on 7 April 2020 to incorporate open area source management conditions.

On 8 May 2020, the licence holder submitted an application to amend the licence to:

- increase the annual throughput for ore processing (prescribed premises Category 5) from 33 Mtpa to 38 Mtpa, an increase of 5 Mtpa
- increase the annual throughput for bulk material loading or unloading (prescribed premises Category 58) from 60 Mtpa to 70 Mtpa, an increase of 10 Mtpa which will be achieved by utilising existing infrastructure at higher rates
- increase the reporting trigger for daily iron ore throughputs from 240,000 wet tonnes to 270,000 wet tonnes.

In considering the licence amendment, DWER assessed the potential risks to the environment, public health and amenity from the proposed throughput increases and associated emissions and discharges during the operation of the premises. DWER's assessment is documented in the Amendment Report (December 2020).

DWER determined a 'High' dust risk associated with premises activities.

Following a review of the information provided in the amendment application, including dust modelling information and the licence holder's proposed control (installation of a belt wash station at conveyor CVR121), DWER concluded there was significant uncertainty in the effectiveness of the proposed control to achieve 'no net increase' in dust emissions from the premises. DWER also noted the potential for greater concentrations of fine dust particles being emitted from the premises as a result of expansion of the Magnetic Separation Plant at the Roy Hill Mine. This is designed to increase the capture of ultra-fine high grade iron ore product from the final tailings waste stream for addition to the fines product delivered to the premises. 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 11 December 2020 to authorise:

- an increase in processing capacity at the screening plant from 33 Mtpa to 38 Mtpa.
- an increase in throughput from 60 Mtpa to 70 Mtpa of iron ore.

The licence was not amended to increase the reporting trigger for daily iron ore throughputs.

The amended licence includes additional controls for the prevention, minimisation, monitoring and management of dust. Minor consequential amendments, as well as grammatical 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 appeals, 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 appeals should be dismissed.

### 3.2 Grounds of appeal and appellants concerns

Ms Roseanne and Mr Charles Oliveri, and Ms Lynnette Taylor raised a number of concerns in their appeals. We have summarised these under 4 key issues in Table 2.

**Table 3** Summary of concerns raised in the appeals

Issue	Concerns raised in the appeals
Conditions on amended licence relating to dust monitoring and management are inadequate	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Licence conditions have failed to achieve acceptable dust management and pollution is having a detrimental effect on the health of the local population, with no penalties to industry. There is no confidence that conditions on the amended licence will be effective or that industry will be held to account if conditions are breached.</li> <li>• Licence conditions should be reviewed to ensure consistency and enforceability, as well as compliance with the precautionary principle.</li> <li>• There needs to be a clear incentive for the licence holder to meet the dust management conditions and a direct consequence, such as a</li> </ul>

Issue	Concerns raised in the appeals
	<p>reduction in throughput, in the event that the dust management conditions are not met. If a right to pollute is contingent on certain outcomes being achieved, those outcomes must be proven to be achieved before the right to pollute takes effect.</p> <ul style="list-style-type: none"> <li>• The licence should include conditions requiring: <ul style="list-style-type: none"> <li>○ verification of, and compliance with, the modelling predictions and a reduction in throughput if the predictions are not met</li> <li>○ ongoing monitoring of dust levels and proactive reduction in throughput whenever the modelled predictions are not being complied with</li> <li>○ provision of evidence that dust suppression measures are achieving the assumed suppression of dust prior to any increase in throughput</li> <li>○ a self-compliance regime whereby throughput is proactively monitored and managed to ensure dust suppression is achieved on an ongoing basis.</li> </ul> </li> <li>• 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 require the licence holder to undertake boundary monitoring to identify the source of Management Trigger criteria exceedances and to implement immediate dust abatement measures which may include ceasing or changing iron ore handling.</li> <li>• Conditions should be applied to ensure adequate management of dust emissions (for example, transport, stockpile and shiploading activities are adequately covered and contained to prevent dust emissions).</li> <li>• Monitoring should be required at the boundary of the port/industry and next to residential areas to properly monitor dust emissions. The results should be reported transparently to the residents.</li> <li>• There have been failings and data issues with the Port Hedland Industries Council ambient monitoring network (specifically, the Taplin Street monitor). These need to be resolved, with no increases in throughputs allowed until the network is operating efficiently.</li> <li>• There should be an independently operated ambient monitoring network, with the best available monitors and at more locations. The results should be reported transparently to the residents.</li> </ul>
Inadequate assessment of impact on amenity	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Dust pollution should be controlled to the National Environment Protection (Ambient Air Quality) Measure (NEPM) Standard, rather than the Port Hedland air guideline value, which is not acceptable to other stakeholders. No further increases in throughputs should be allowed until dust concentrations are controlled to below the NEPM Standard.</li> </ul>
Grant of licence inconsistent with statutory, regulatory and policy frameworks	<ul style="list-style-type: none"> <li>• The amendment is inconsistent with the application of the precautionary principle in the EP Act.</li> <li>• The amendment is inconsistent with DWER's regulatory principles to assess cumulative impacts and to have consistent regulatory outcomes. There should be no decision to increase throughput until</li> </ul>

Issue	Concerns raised in the appeals
	<p>there has been an appropriate, comprehensive and publicly available cumulative impact assessment. Currently each polluter is licensed in isolation when they are cumulatively responsible for the dust pollution in Port Hedland.</p> <ul style="list-style-type: none"> <li>• To permit an increase in throughput prior to finalisation of the Dust Management Guideline is inconsistent with the State Government's response to the <i>Port Hedland Dust Management Taskforce Report</i> 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.</li> <li>• If the amendment is allowed, it should be reviewed and amended as necessary for consistency with DWER's regulatory strategy. This will be at the licence holder's risk if it wishes to proceed with the tonnage increases at this time.</li> </ul>
Compensation for loss of amenity	<ul style="list-style-type: none"> <li>• There are financial costs incurred to address dust pollution (increased maintenance and upkeep of properties; installation and maintenance of air-conditioning, air cleaning and dust mitigation equipment) and economic impacts on the community, including impacts on the market value of properties and resident's rights to develop their land, with no provision for appropriate compensation.</li> <li>• 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.</li> <li>• Conditions should be applied to require compensation of residents.</li> </ul>

### 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 L8967/2016/1

Condition	Description	Consideration
<b>Throughput Limits</b> Condition 2 and <b>Further Works</b> Condition 13 (New conditions)	Permit handling of up to 70 Mtpa under a staged approach allowing incremental throughput increases contingent on the installation/ construction of specified infrastructure.	<ul style="list-style-type: none"> <li>The licence requires the installation of a belt wash station at conveyor CVR121 prior to an increase in throughput up to 65 Mtpa.</li> <li>A belt wash station is to be installed on a conveyor that does not have a belt wash station installed, prior to increasing throughput beyond 65 Mtpa up to 70 Mtpa.</li> <li>In its response to the appeals, DWER advised that the licence holder identified 3 conveyors (CVR121, CVR105 and CVR122) as top 20 dust sources at the premises in its emissions estimations, but proposed further control for dust only at conveyor CVR121. DWER determined that dust mitigation at this source, in addition to controls at a second conveyor and, if indicated by dust control validation and reporting to demonstrate the effectiveness of dust control infrastructure, a third conveyor, are 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.</li> <li>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. The licence holder advised that belt wash stations have been used in the iron ore industry for over a decade and are considered to be effective in reducing emissions. In the Amendment Report, DWER notes that the extent of the effectiveness of belt wash stations has not been verified.</li> </ul>
<b>Further Works</b> Condition 14 (New condition)	Prohibits the departure from the requirements specified in Table 3 of Condition 13, except where: <ul style="list-style-type: none"> <li>such departure does not increase risks to public health public amenity and the environment</li> <li>all other conditions on the licence are satisfied.</li> </ul>	Where there is a departure from the requirements specified in Table 3 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, and demonstrate the achievement of no increase in risk to public health, public amenity and the environment. (Condition 16)
<b>Further Works Written Notification</b>	Require written notification to the CEO of the installation of the infrastructure, an audit of compliance with the requirements in Condition 13, and the	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
Conditions 15 and 16 (New conditions)	<p>preparation and submission to the CEO of an Environmental Compliance Report, within 14 days of the installation of the specified dust control infrastructure.</p> <p>The minimum requirements for the Environmental Compliance Report are specified.</p>	
<b>Validation of Dust Control Infrastructure</b> Conditions 17 and 18 (New conditions)	<p>Require review of the effectiveness of the specified dust control infrastructure to demonstrate that at least a 70% emission rate reduction from baseline CVR121 emissions has been achieved by the implementation of the 2 belt wash stations.</p> <p>Includes requirement for the 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.</p>	<ul style="list-style-type: none"> <li>• Schedule 5 'Dust Control Validation Report' specifies the minimum experimental design parameters to be considered in the design of the study to validate the effectiveness of the belt wash station on conveyor CVR121 and the additional conveyor belt wash station installed in accordance with Condition 13. Dust control validation is required to be based on a statistically rigorous monitoring exercise and include an evaluation of uncertainty to determine the likely statistical reductions achieved.</li> <li>• Schedule 5 specifies the minimum information to be included in the Dust Control Validation Report. This includes:               <ul style="list-style-type: none"> <li>○ information on statistical tests or other procedures adopted to ensure that the data used in final emissions estimations are robust, or the uncertainty is properly understood and accounted for</li> <li>○ 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.</li> </ul> </li> </ul>
<b>Further Works</b> Condition 19 (New condition)	<p>Requires the installation of a third belt wash station in the event that dust control validation does not demonstrate the same level of effectiveness as in the dust modelling. Installation is required within 6 months of the date of submission of the Dust Control Validation Report.</p>	<p>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 to demonstrate that the required emission rate reduction has been achieved.</p>

Condition	Description	Consideration
<b>Infrastructure and Equipment</b> Conditions 9 to 12 (Amended condition and existing conditions)	Require 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.	<ul style="list-style-type: none"> <li>The 2 installed belt wash stations are required to remain available for at least 90% of the time when iron ore is handled along each conveyor (except for the purpose of dust control validation).</li> <li>The requirement also applies to other dust control infrastructure/equipment (water sprays on stackers, reclaimers and shiploaders; stockyard water cannons; and transfer stations and conveyor dust suppression sprays).</li> <li>The conditions require that the specified infrastructure and equipment is maintained in good working order to ensure it can be operated in accordance with the specified requirements; 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.</li> <li>The licence holder must maintain records of the maintenance of infrastructure required to ensure it is kept in good working order. (Condition 34)</li> </ul>
<b>Moisture Content Monitoring and Management</b> Conditions 5 to 8 (Amended and existing conditions)	Require ongoing moisture content monitoring and management of iron ore in-loaded, stockpiled and out-loaded at the premises.	<ul style="list-style-type: none"> <li>All iron ore in-loaded or out-loaded at 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 licence holder is required to obtain specific DEM level numbers for each iron ore product, including blended products, on an annual basis.</li> <li>To improve confidence that all iron ore has a moisture content above the DEM level, the averaging period for moisture content monitoring has been shortened in the amended licence from each shipload to every ship hold loaded (i.e. the frequency of the averaging period has been increased).</li> <li>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).</li> <li>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.</li> </ul>
<b>Air Quality Monitoring</b> Condition 20	Requires ongoing monitoring of air quality at the premises.	<ul style="list-style-type: none"> <li>Monitoring of PM<sub>10</sub> concentrations is required at 6 monitoring stations, including 4 monitoring stations located on the premises' boundary.</li> <li>Meteorological (rainfall, wind direction and wind speed) monitoring is required at 1 station on the premises.</li> </ul>

Condition	Description	Consideration
(Amended condition)		<ul style="list-style-type: none"> <li>Monitoring is required to be undertaken in accordance with methods for sampling and analysis of ambient air specified in relevant Australian Standards.</li> </ul>
<b>Dust Monitoring Report</b> Condition 26 (New condition)	Requires submission of a Dust Monitoring Report to the CEO within 15 months of the installation of the belt wash stations on conveyors specified in Condition 13.	<ul style="list-style-type: none"> <li>Schedule 6 'Dust Monitoring Report' specifies the minimum requirements for the Dust Monitoring Report. The report is required to include:               <ul style="list-style-type: none"> <li>an analysis of PM<sub>10</sub> 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</li> <li>an analysis of PM<sub>10</sub> monitoring station data with associated weather data and spatial data (location of monitor and locations of dust sources)</li> <li>an analysis of PM<sub>10</sub> monitoring station data in comparison with concentrations at ambient monitoring locations where there are exceedances of the Port Hedland air guideline value at the Richardson Street, Kingsmill Street and Taplin Street monitors and Reportable Events.</li> </ul> </li> <li>The information in the report will be used to determine whether dust controls are effective and emissions from the premises are not increasing due to authorised increase in throughput. This will provide a longer-term assessment of the effectiveness of dust control to complement the validation information provided in the Dust Control Validation Report.</li> <li>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 evaluation of appropriate trigger levels as Management Trigger and Reportable Event criteria.</li> </ul>
<b>Improvement Requirements</b> Conditions 27 to 31 (Existing and amended conditions)	Require ongoing application of surface binding treatments and revegetation trials to suppress dust emissions from open areas on the premises.	The licence holder is required to continue to trial alternative rehabilitation methods and binding treatment for the purpose of minimising dust emissions from large open areas within the premises.

Condition	Description	Consideration
<b>Dead Ore Stockpiles</b> Condition 32 (New condition)	Requires the cessation of reclamation of 'dead ore stockpiles' during strong wind conditions and/or when average wind conditions place residents potentially downwind of the activities.	'Dead ore stockpiles' are stockpiles that cannot be reclaimed by the bucketwheel reclaimer and must be removed by mobile equipment. DWER considers that the use of mobile reclaiming equipment is likely to generate greater dust compared to a fixed reclaimer.
<b>Schedule 4 'Quarterly event reporting'</b>	Outlines the investigation and reporting requirements triggered when: <ul style="list-style-type: none"> <li>throughput amounts exceed those specified in Condition 4</li> <li>boundary dust monitoring and/or ambient Reportable Event Criteria specified in Condition 21 are exceeded.</li> </ul>	The amended licence includes additional reporting requirements to support the interpretation of potential dust sources and impacts during high dust risk events recorded at boundary monitors.
<b>Daily Iron Ore Loading</b> Condition 4 (Existing condition)	Requires investigation, actions and reporting in accordance with Schedule 4 in the event that more than 240,000 wet tonnes of iron ore are loaded into vessels at the premises within any day.	<ul style="list-style-type: none"> <li>The licence holder's request that the reporting limit is increased from 240,000 to 270,000 wet tonnes of iron ore loaded into vessels at the premises within any day was not supported by DWER.</li> <li>The intent of the reporting requirement is to improve the understanding of how days with greater throughput may impact on dust emissions and DWER considered that the current reporting rates are not frequent enough to assist with achieving this intent.</li> </ul>

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

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#### Current appeals

There is currently one other appeal in objection to amendment of a licence for prescribed premises in Port Hedland being investigated on behalf of the Minister for Environment:

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- amendment of licence L8194/2007/3, Anderson Point Materials Handling Facility, Fortescue Metals Group Ltd (Appeal Number 046 of 2020).

#### 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 previous 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 NEPM; and concerns about PM<sub>2.5</sub> and asbestos.
- DWER did not apply 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 the 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 and current Minister for Environment dismissed the appeals.

See [www.appealsconvenor.wa.gov.au](http://www.appealsconvenor.wa.gov.au) for the appeal reports and the Minister's appeal determinations.

### 3.5 Review of DWER's assessment of amenity

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

- The assessment of amenity is considered by DWER to be intrinsically subjective and linked to a particular community's expectations at a particular point in time.
- Based on the receipt of stakeholder complaints and concerns relating to amenity impacts from dust, DWER concluded that parts of the Port Hedland community is sensitive to existing ambient dust levels affecting amenity.

**Appeals Convenor's Report to the Minister for Environment – June 2021**

- DWER's risk assessment identified the potential impact on amenity as dust fallout onto cars, homes, businesses and recreational areas.
- 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. Other measures commonly used to understand amenity impacts include community surveys and complaint information.
- 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.
- There is no monitoring of TSP or dust deposition conducted by the Port Hedland Industries Council or existing Part V licence holders in Port Hedland. We note that there is a condition on licence L8194/2007/3 for the Anderson Point Materials Handling Facility requiring dust deposition monitoring to be undertaken.
- 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 'Likely' for Port Hedland. This is on the basis that residents in the West End have reported high level impacts to amenity and may endure health effects requiring medical treatment should the consequence criterion be exceeded; and that the risk event will probably occur in most circumstances.
- The Amendment Report, which identifies the assessment of potential risks from proposed throughput increases and associated emissions and discharges, identifies the risk event likelihood as 'Possible', on the basis that the risk event could occur at some time.
- DWER determined that, based on 5-year averaged wind directions, the West End is downwind of the premises activities approximately 12% of the time, although these activities are closer to the receptors.<sup>36</sup> Prevailing westerly winds and those between the north, east and south vectors are expected to remove the pathway for dust emissions to receptors the majority of the time.

### 3.6 Other issues

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The appellants' remaining concerns are beyond the appeal scope. For completeness we have outlined the appellants' concerns here. We acknowledge the appellants' concerns, however we have not considered them further because these matters are beyond the appeals' scope.

#### **Compensation for loss of amenity**

One of the appellants 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 appellants

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<sup>36</sup> Application for Licence L8967/2016/1. Decision Report (DWER, December 2018), Section 6.1.



submitted there should be a condition requiring the licence holder to compensate residents for the costs of cleaning dust and installing and maintaining air-conditioning, air cleaning and dust mitigation equipment.

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.<sup>44</sup>

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.<sup>45</sup>

We summarise similar recent appeals in Section 3.4.

### **Additional DWER advice**

We also note the DWER's advice in response to appeals against the amendment to Pilbara Port Authority's licence for the Utah Point Multi-User Bulk Handling Facility:<sup>46</sup>

- 'Material environmental harm' and 'serious environmental harm' as defined in the EP Act, refer to harm that "results in actual or potential loss, property damage or damage costs...". Within the context of 'damage costs', defined as the 'reasonable costs and expenses that are or would be incurred in taking all reasonable and practical measures to prevent, control or abate the environmental harm and to make good resulting environmental damage', DWER considers this definition does not include impacts to property value.
- The Port Hedland Voluntary Buyback Scheme is not administered by DWER. The scheme is separate to the assessment of Part V licence and works approval applications.

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<sup>44</sup> 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.

<sup>45</sup> 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.

<sup>46</sup> Appeals Convenor (2021). Report to the Minister for Environment, Appeals objecting to a licence amendment Utah Point Multi-User Bulk Handling Facility. Appeal Numbers 029.001–002 of 2020.

## 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 representatives from Roy Hill Infrastructure Pty Ltd on 19 January 2021, Ms Oliveri on 24 February 2021, and Ms Taylor and her representative on 10 March 2021
- reviewing other information, policy and guidance as needed.

See Table 5 for the documents we considered.

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

Document	Date
DWER. Guidance Statement: Setting Conditions. Part V, Division 3, <i>Environmental Protection Act 1986</i>	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, <i>Environmental Protection Act 1986</i>	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. Application for Licence L8967/2016/1. Decision Report	December 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 <i>Environmental Protection Act 1986</i> and <i>Environmental Protection Regulations 1987</i>	June 2019
Roy Hill Infrastructure Pty Ltd. Roy Hill Infrastructure – Port Operating Licence Amendment Application – Increase in Export	May 2020
DWER. Community updates. Port Hedland [ <a href="https://www.der.wa.gov.au/our-work/community-updates/435-port-hedland">https://www.der.wa.gov.au/our-work/community-updates/435-port-hedland</a> ]	October 2020
DWER. Compliance and Enforcement Policy	November 2020
DWER. Application for Licence Amendment L8967/2016/1. Amendment Report	December 2020
DWER. Guideline: Regulatory principles. Activities regulated under the <i>Environmental Protection Act 1986</i> , Part V: effective and efficient regulation	December 2020
DWER. Guideline: Risk assessments. Part V, Division 3, <i>Environmental Protection Act 1986</i>	December 2020
DWER. Guideline: Environmental siting. Part V, Division 3, <i>Environmental Protection Act 1986</i>	December 2020
DWER. Guideline: Decision making. Activities regulated under Part V, Division 3, <i>Environmental Protection Act 1986</i>	December 2020
DWER. Response to appeals 063/20	February 2021
Roy Hill Infrastructure Pty Ltd. Response to appeals 063/20	February 2021
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.

#### Appeals Convenor's Report to the Minister for Environment – June 2021