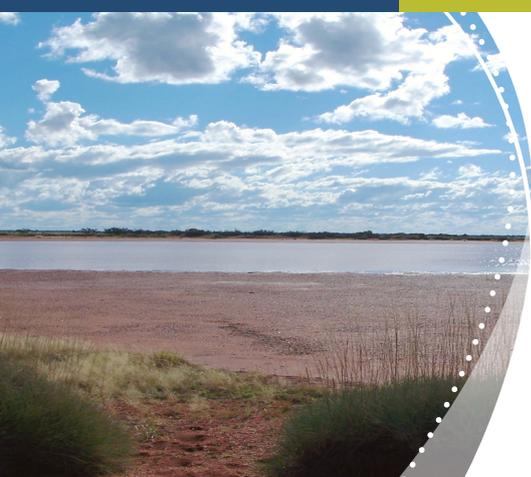




Report and recommendations of the Environmental Protection Authority



Pilbara Iron Ore and Infrastructure Project: Port and North-South Railway (Stage A) – inquiry under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 690

Fortescue Metals Group Limited

Report 1669

March 2020

Inquiry under section 46 of the *Environmental Protection Act 1986*

The Minister for Environment has requested that the Environmental Protection Authority (EPA) inquire into and report on the matter of changing condition 17 of Ministerial Statement 690 relating to dust management for the Pilbara Iron Ore and Infrastructure Project: Port and North-South Railway (Stage A).

Section 46(6) of the *Environmental Protection Act 1986* requires the EPA to prepare a report that includes:

- (a) a recommendation on whether or not the implementation conditions to which the inquiry relates, or any of them, should be changed;
- (b) any other recommendations that it thinks appropriate.

The following is the EPA's report to the Minister pursuant to s. 46(6) of the *Environmental Protection Act 1986*.



Dr Tom Hatton
Chairman

18 March 2020

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1. The proposal

The Pilbara Iron Ore and Infrastructure Project: Port and North-South Railway (Stage A), involves the construction of a port at Anderson Point in Port Hedland, including shipping facilities, reclaimed areas for iron ore handling infrastructure, stockpiles and ancillary facilities and a connecting north-south railway over 345 kilometres to resources in the east Pilbara at Mindy Mindy. The proponent for the proposal is Fortescue Metals Group Ltd (FMG).

The Environmental Protection Authority (EPA) assessed the proposal at the level of Public Environmental Review, and published its report (Report 1173) in May 2005. In this report, the EPA considered the following key environmental factors required detailed evaluation in its Report and Recommendations to the Minister for the Environment:

- Terrestrial biodiversity
- Benthic primary producer habitat – mangroves
- Surface water hydrology
- Dust
- Noise
- Marine and sediment quality.

In applying the *Statement of Environmental Principles, Factors and Objectives* (EPA 2018b) these factors are now represented by:

- Flora and Vegetation
- Terrestrial Fauna
- Inland Waters
- Social Surroundings
- Air Quality
- Human Health
- Benthic Communities and Habitats
- Marine Environmental Quality.

The EPA concluded in Report 1173 that it was likely the EPA's objectives would be achieved, provided there was satisfactory implementation by the proponent of the EPA's recommended conditions.

The then Minister for Environment approved the proposal for implementation, subject to the implementation conditions of Ministerial Statement 690 (3 October 2005).

Previously approved changes to the proposal

Nine changes to the original proposal have been approved under s. 45C of the *Environmental Protection Act 1986* (EP Act):

- increase of dredging area and clearance area for the Port, approved on 6 April 2006
- additional clearance for temporary access road, approved on 17 August 2006
- additional infrastructure listed as part of Rail Loop and Railway Alignment, approved on 12 September 2006
- increase of dredging area and clearance area for Port, approved on 27 April 2007
- description of conveyors as uncovered, approved on 4 April 2008
- extension of construction period and addition of two car dumpers, approved on 7 August 2008
- additional rail infrastructure and associated clearance of an additional 606 hectares, approved on 17 December 2009
- increase in railway corridor disturbance (371 hectares) due to construction of additional infrastructure and increase in port operating area (3 hectares) due to widening of causeway, approved on 21 August 2011
- removal and amendment of the port elements of Schedule 1 to include wharf AP5, and removal of references to export tonnage in Schedule 1, approved on 6 February 2014.

Previously approved changes to the conditions

No changes to the conditions of Ministerial Statement 690 have been approved under s. 46 of the EP Act.

2. Requested changes to the conditions

In September 2019, the proponent requested the following change to the implementation conditions of Ministerial Statement 690:

- deletion of condition 17, leaving dust emissions from the port facility to be solely regulated under Part V of the EP Act.

In December 2019, the Minister for Environment requested that the EPA inquire into and report on the matter of changing the implementation conditions of Ministerial Statement 690 for the Pilbara Iron ore and Infrastructure Project: Port and North-South Railway (Stage A). This report satisfies the requirements of the EPA's inquiry.

3. Inquiry into changing the conditions

The EPA has discretion as to how it conducts this inquiry. In determining the extent and nature of this inquiry, the EPA had regard to information such as:

- the currency of its original assessment (EPA Report 1173)
- Ministerial Statement 690
- information provided by the proponent
- advice from relevant decision-making authorities
- any new information regarding the potential impacts of the proposal on the environment.

EPA procedures

The EPA followed the procedures in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016* (State of Western Australia 2016) and the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA 2018a).

Part V (Environmental Regulation) of the EP Act

In conducting this inquiry, the EPA is aware the Department of Water and Environmental Regulation (DWER) is now responsible for the regulation of FMG's operations in the Anderson Point Port Facility, under Part V (Environmental Regulation) and Part VI (Enforcement) of the EP Act.

In assessing the requested changes to implementation conditions, the EPA considered the capacity and experience of the regulator to manage dust emissions, including:

- A. Whether the regulator has established policies and procedures to support its regulatory process related to dust emissions.
- B. Whether the regulator has the technical skills and experience to manage the environmental impacts, particularly where non-standard technology is proposed or the type of proposal is not regularly considered by the regulator.
- C. Where the EPA considers that an opportunity for public comment is important, whether this is provided by the regulatory process.

A. Regulator policies and procedures

The EPA acknowledges that emissions and discharges for prescribed premises are licenced under Part V (Environmental Regulation) of the EP Act. FMG's Anderson Point Port Facility is a prescribed premises and subject to a Part V operating licence. The EPA is aware that FMG has requested for an amendment to this licence for an increase of throughput. The inclusion of dust management conditions in the licence can be accomplished in the same licence amendment.

The EPA notes that DWER developed the following guidance statements in relation to its functions under Part V of the EP Act:

- *Guidance Statement – Regulatory Standards, Environmental Protection Act 1986, Part V: Effective and Efficient Regulation* (DER 2016a)
- *Guidance Statement – Setting Conditions, Division 3, Part V, Environmental Protection Act 1986* (DER 2015)
- *Guidance Statement – Environmental Siting, Part V, Division 3, Environmental Protection Act 1986* (DER 2016b)
- *Guideline – Decision Making, Part V, Division 3, Environmental Protection Act 1986* (DWER 2019)
- *Guidance Statement – Risk Assessment, Part V, Division 3, Environmental Protection Act 1986* (DER 2017a)
- *Guidance Statement – Land Use Planning, Part V, Environmental Protection Act 1986* (DER 2017b).

The EPA notes that DWER undertakes a risk-based approach to its regulatory functions and decision-making, based on the source-pathway receptor model. In accordance with the *Guidance Statement – Risk Assessment, Part V, Division 3, Environmental Protection Act 1986* (DER 2017a), this approach is summarised as:

- identification of the emissions including the sources, type, volumes, concentrations and duration of emissions
- identification of emission pathways and the receptors that may be affected by the emissions
- identification of risk events, which include an emission, a pathway or potential pathway and an adverse effect to the receptor from that emission
- an assessment of the consequence and likelihood of the risk event
- determination on whether the risk event is acceptable, tolerated or unacceptable and not tolerated.

The EPA also notes that DWER's risk assessment framework considers the cumulative impacts of emissions. The EPA considers that DWER's framework provides a suitable mechanism to determine the likely significance of the impact, and appropriate regulatory controls to mitigate or manage the emissions.

The EPA notes that DWER's regulatory framework ensures that licences and approvals issued will be subject to conditions that ensure there is no unacceptable risk of harm to public health or the environment.

Furthermore, the EPA recognises that s. 62A of the EP Act defines the kinds of conditions that can be set in Part V works approvals and licences. The EPA considers that s. 62A could adequately allow for acceptable management of emissions.

B. Technical skills and experience to manage the environmental impacts

With regard to technical skills and experience to manage the environmental impacts, the EPA notes that DWER's role includes protecting and maintaining air quality and providing strategic, technical and policy advice on air quality and noise emissions.

The EPA notes that DWER undertook the Port Hedland dust monitoring campaign from February to June 2017 using Light Detection and Ranging (LIDAR) technology and Beta Attenuation Monitors (BAM). The dust monitoring campaign was initiated to better understand dust issues, including the location of dust sources and movement of dust plumes in the air shed.

The results of the campaign are used as a tool to inform decision-making, including the setting of conditions for prescribed premises under Part V (Environmental Regulation) of the EP Act.

C. Public comment process

The EPA notes that s. 54(2)(b), s. 54(2a), s. 57(2)(b), and s. 57(2a) of the EP Act provides opportunity for the public to provide comment on applications for works approvals and licences. The licence amendment application from FMG for the increase in throughput and addition of dust management conditions will be released for public comment.

In addition, s. 102 of the EP Act allows for appeals against a decision to grant or refuse a works approval and licence, and on amendments made to works approvals and licences. The appeal rights exist for third parties including members of the public.

Port Hedland Dust Taskforce

The EPA's former *Environmental Protection Bulletin No. 2 Port Hedland Noise and Dust* (EPA 2009) stated that "a coordinated government and industry approach to the development and execution of an integrated government and industry strategy (with explicit emission reduction strategies and explicit exposure reduction strategies) is required with strong and inclusive governance arrangements" for dust and noise impacts at Port Hedland.

The Port Hedland Dust Management Taskforce (Taskforce) was established in May 2009 to plan for and provide effective dust management strategies in Port Hedland. The Taskforce is chaired by the Department of Jobs, Tourism, Science and Innovation and includes representatives from the Town of Port Hedland, Pilbara Ports Authority, Department of Health, Department of Planning, Lands and Heritage, Department of Water and Environmental Regulation and industry (including Roy Hill Infrastructure, BHP Billiton Iron Ore, Fortescue Metals Group and Port Hedland Industries Council).

The Port Hedland Industries Council (PHIC) was established between industry and the Pilbara Ports Authority to manage an ambient air quality monitoring program. The Taskforce supported the establishment of the PHIC, and endorsed information sharing, improvement initiatives, and monitoring programs.

In 2010, the Taskforce released the *Port Hedland Air Quality and Noise Management Plan*, which was adopted by the Government of Western Australian for ongoing air quality and noise management in Port Hedland. The plan included an implementation strategy for air quality and noise reduction in Port Hedland.

The *Port Hedland Air Quality and Noise Management Plan* identified environmental management controls and detailed the responsible organisations. PHIC was identified as the responsible organisation for establishing and operating an independent, best practice comprehensive air quality and noise management regime in Port Hedland. DWER was responsible for the regulation aspect of this regime.

In January 2016, the Department of Health released a Health Risk Assessment report on air quality in Port Hedland (DOH 2016). The report identified the risks associated with exposure to coarse and fine particulate matter and its constituents of certain metals, silica and mineral fibres. In response to the report, the Taskforce released the *Port Hedland Dust Management Taskforce Report* (DSD 2016) to the State Government, which provided its final recommendations regarding dust impacts on Port Hedland.

The State Government supported the Taskforce recommendation for the implementation of a coordinated risk-based review and assessment approach in management of dust in Port Hedland. To give effect to this, the following commitments were made:

- DWER to complete the review of licences for all port premises under Part V of the EP Act, applying a consistent and risk-based approach to the regulation of dust for each premises.
- Where premises are subject to Ministerial Statements, DWER to assist the EPA to determine a consistent and singular regulatory approach for bulk handling port premises to eliminate regulatory duplication.
- DWER to commission an independent third-party review and develop a dust management guideline for bulk handling port premises, outlining its expectations in relation to the assessment of dust impacts, dust control and monitoring requirements from these premises.
- Through licence reviews, DWER to implement the dust management guidelines for bulk handling port premises under Part V, Division 3 of the EP Act (DJTSI 2018).

In October 2019, DWER launched the Port Headland Dust Program to implement the State Government's response to the *Port Hedland Dust Management Taskforce Report* including the takeover of the operation and maintenance of the PHIC air quality monitoring network and the development of new guidelines to ensure that the Port Hedland's bulk handling operators achieve best practice.

The EPA notes that DWER has identified a process for the regulation of dust at Port Hedland. This process has been developed based on current DWER and EPA policies, and the provisions of the EP Act that relate to the regulation of emissions and discharges.

Dust management of port operations in Port Hedland is currently regulated under Part V of the EP Act through licence conditions, with the exception of FMG's Anderson Point operations where dust management is mandated through condition 17 of Ministerial Statement 690. The proposed amendment will remove dust management requirements from the statement to allow regulation of dust emissions through licence conditions.

4. Inquiry findings

The EPA considered that Human Health and Air Quality are the key environmental factors relevant to the change to conditions.

4.1 Air Quality and Human Health - Dust

The EPA's environmental objective for Human Health is *to protect human health from significant harm*.

The EPA's environmental objectives for Air Quality is *to maintain air quality and minimise emissions so that environmental values are protected*.

Conclusions from EPA Report 1173

In the EPA's original assessment of this proposal, impacts on Human Health and Air Quality were considered. In its original assessment, the EPA assessed the proponent's proposed dust modelling and management. The EPA concluded that the proponent's contribution to dust levels in the Port Hedland town site to be minor, given the distance of the proposal to the town site and the location of the proposal in relation to the prevailing winds.

In addition, as the ore will be conditioned at the mine to the optimum moisture content and transported to the port facility by rail, it is not anticipated that loaded trains will generate significant dust during daily operations. The EPA noted that the greatest potential to generate dust emissions was from rail car dumpers, ore conveyers, stockpiles, ship loading and vehicle traffic.

The issue of dust was considered manageable and the EPA recommended condition 17 to manage and control dust:

- Condition 17: Dust
 - 17-1 The proponent shall monitor and control dust associated with construction and operation of the port in accordance with a Dust Management Plan prepared to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
 - 17-2 The proponent shall review air quality modelling and assumptions presented in the Public Environmental Review and Response to Submissions, in the event that the cumulative impact assessment study commissioned by the Department of Industry and Resources indicates a significant variance from that modelling.
 - 17-3 The proponent shall implement the Dust Management Plan required by condition 17-1.
 - 17-4 The proponent shall make the Dust Management Plan required by condition 17-1 publicly available.

The proponent has implemented the *Port Facility Dust Environmental Management Plan* which was first approved in July 2011 under condition 17-1 of Ministerial Statement 690. This plan has been updated three times to support Port expansions. The proponent has advised that the plan is made publicly available upon request.

The EPA notes that the proponent controls dust associated with operation of the port in accordance with the *Port Facility Dust Environmental Management Plan* through numerous dust management techniques and infrastructure to minimise dust emissions from the facility.

In addition to the existing dust controls and management measures, a number of recent dust control measures were implemented by the proponent's Port Operations Dust Workings Group, including a commitment to ensure an increase to 95 per cent from 90 per cent of out loaded product having a moisture content above DEM.

Condition 17-2 requires the proponent to review air quality modelling and assumptions presented in the Public Environmental Review. The proponent was compliant with this condition during the construction phase. DWER considered the proponent had completed this condition in its 2015 desktop audit report for Ministerial Statement 690.

The proponent is currently compliant with condition 17, and is effectively managing dust emissions at the facility.

Assessment of the proposed change to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for these factors:

- *Environmental Factor Guideline – Air Quality* (EPA 2016a)
- *Environmental Factor Guideline – Human Health* (EPA 2016b).

The EPA acknowledges that DWER supports the process to avoid regulatory duplication through the amendment of Ministerial Statement conditions set under Part IV (Environmental Impact Assessment) of the EP Act, so that emissions and discharges can be appropriately regulated under Part V (Environmental Regulation) of the EP Act.

The EPA inquired into the proposed changes to the dust implementation conditions and considers that the amendment of condition 17 (Dust) of Ministerial Statement 690 is appropriate because operational dust emissions which may impact Air Quality and Human Health are more appropriately and effectively managed by DWER under Part V (Environmental Regulation) of the EP Act, rather than under Part IV (Environmental Impact Assessment).

An amendment of condition 17 which allows for the implementation of conditions 17-1, 17-2, 17-3 and 17-4 to cease upon the issuing of a Part V licence that includes dust management, removes the potential for regulatory duplication and allows for increased regulatory flexibility under Part V of the EP Act.

5. Conclusions and recommendations

Change to condition 17

The proponent has requested for condition 17 to be deleted, leaving dust emissions from the port facility to be solely regulated under Part V of the EP Act. The EPA considers it is appropriate to amend condition 17 so that the condition ceases upon the issuing of a Part V licence that includes dust management.

Conclusions

In relation to the environmental factors, and considering the information provided by the proponent and relevant EPA policies and guidelines, the EPA concludes that:

- There are no changes to the proposal.
- There is no significant new or additional information that changes the conclusions reached by the EPA under any of the relevant environmental factors since the proposal was assessed by the EPA in Report 690 (May 2005).
- No new significant environmental factors have arisen since the EPA assessed the proposal.
- The impacts to the key environmental factors are considered manageable, based on the requirements of existing conditions, and the imposition of the attached recommended condition (Appendix 1).

Recommendations

Having inquired into this matter, the EPA submits the following recommendations to the Minister for Environment under s. 46 of the EP Act:

1. While retaining the environmental requirements of the original conditions of Ministerial Statement 690, it is appropriate to amend implementation condition 17 to allow for the requirement to implement condition 17-1, 17-2, 17-3 and 17-4 to cease upon the issuing of a Part V Licence which includes dust management.
2. The proposal may be implemented, subject to the conditions of any licence issued to the proponent in relation to its operations in Port Hedland under Part V (Environmental Regulation) of the EP Act.
3. After complying with s. 46(8) of the EP Act, the Minister may issue a statement of decision to remove condition 17 of Statement 690 in the manner provided for in the attached recommended Statement (Appendix 1).

References

DER 2015, *Guidance Statement – Setting Conditions, Division 3, Part V, Environmental Protection Act 1986*, Department of Environmental Regulation, Perth, WA.

DER 2016a, *Guidance Statement – Regulatory Standards, Environmental Protection Act 1986, Part V: Effective and Efficient Regulation*, Department of Environmental Regulation, Perth, WA.

DER 2016b, *Guidance Statement – Environmental Siting, Part V, Division 3, Environmental Protection Act 1986*, Department of Environmental Regulation, Perth, WA.

DER 2017a, *Guidance Statement – Risk Assessment, Part V, Division 3, Environmental Protection Act 1986*, Department of Environmental Regulation, Perth, WA.

DER 2017b, *Guidance Statement – Land Use Planning, Part V, Environmental Protection Act 1986*, Department of Environmental Regulation, Perth, WA.

DJTSI 2018, *Port Hedland Dust Management Taskforce Report – Government Response fact sheet*, Department of Jobs, Tourism, Science and Innovation, Perth, WA.

DOH 2016, *Port Hedland Air Quality Health Risk Assessment for Particular Matter*, Department of Health, Perth WA.

DSD 2016, *Port Hedland Dust Management Taskforce Report to Government (August 2016)*, Department of State Development, Perth, WA.

DWER 2019, *Guideline – Decision Making, Part V, Division 3, Environmental Protection Act 1986*, Department of Water and Environmental Regulation, Perth, WA.

EPA 2009, *Environmental Protection Bulletin No. 2 Port Hedland Noise and Dust*, Environmental Protection Authority, Perth, WA.

EPA 2016a, *Environmental Factor Guideline – Air Quality*, Environmental Protection Authority, Perth, WA.

EPA 2016b, *Environmental Factor Guideline – Human Health*, Environmental Protection Authority, Perth, WA.

EPA 2018a, *Environmental Impact Assessment (Part IV Division 1 and 2) Procedures Manual*, Environmental Protection Authority, Perth, WA.

EPA 2018b, *Statement of Environmental Principles, Factors and Objectives*, Environmental Protection Authority, Perth, WA.

State of Western Australia 2016, *Western Australian Government Gazette*, No. 223, 13 December 2016.

Appendix 1: Identified decision-making authorities and recommended environmental conditions

Identified Decision- Making Authorities

The following decision-making authorities (DMAs) have been identified for the purposes of s. 45 as applied by and s. 46(8) of the *Environmental Protection Act 1986*:

Decision-Making Authority	Legislation (and Approval)
1. Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i> (s. 18 clearances)
2. Minister for State Development	Approvals under State Agreement Port Infrastructure
3. Minister for Environment	<i>Biodiversity Conservation Act 2016</i>
4. Minister for Water	<i>Rights in Water and Irrigation Act 1914</i>
5. Minister for Lands	<i>Land Administration Act 1997</i>
6. Minister for Transport	<i>Jetties Act 1926</i>
7. CEO, Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> (Part V – licence and works approval)
8. CEO, Pilbara Ports Authority	<i>Port Authorities Act 1999</i>

Note: In this instance, agreement is only required with DMAs 1 to 6 since these DMAs are Ministers.

Recommended Environmental Conditions

STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO A PROPOSAL

(Section 46 of the *Environmental Protection Act 1986*)

PILBARA IRON ORE & INFRASTRUCTURE PROJECT: PORT & NORTH-SOUTH RAILWAY (STAGE A)

Proposal: Construction of a port at Anderson Point in Port Hedland, which includes shipping facilities, reclaimed areas for iron ore handling infrastructure, stockpiles and ancillary facilities, and a connecting north-south railway over a distance of approximately 345 kilometres to resources in the east Pilbara at Mindy Mindy, as documented in schedule 1 of this statement.

Proponent: Fortescue Metals Group Ltd
Australian Company Number 57 002 594 872

Proponent Address: Level 2, 87 Adelaide Terrace
East Perth, Western Australia 6004

Report of the Environmental Protection Authority: 1669

Previous Report Relating to this Proposal: 1173

Preceding Statement Relating to this Proposal: 690

Pursuant to section 45 of the *Environmental Protection Act 1986*, as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 690, be changed as specified in this Statement.

Condition 17 of Ministerial Statement 690 is changed by adding condition 17-5:

17 Dust

17-5 Conditions 17-1, 17-2, 17-3 and 17-4 of Ministerial Statement 690 cease to have effect once dust is licenced through Part V (Environmental Regulation) of the *Environmental Protection Act 1986*.