

# Dust Assessment Handbook



© 2019 State of NSW and the NSW Environment Protection Authority

With the exception of photographs, the State of NSW and the NSW Environment Protection Authority (EPA) are pleased to allow this material to be reproduced in whole or in part for educational and non-commercial use, provided the meaning is unchanged and its source, publisher and authorship are acknowledged. Specific permission is required for the reproduction of photographs.

The EPA has compiled this handbook in good faith, exercising all due care and attention. No representation is made about the accuracy, completeness or suitability of the information in this publication for any particular purpose. The EPA shall not be liable for any damage which may occur to any person or organisation taking action or not on the basis of this publication. Readers should seek appropriate advice when applying the information to their specific needs. This document may be subject to revision without notice and readers should ensure they are using the latest version.

All content in this publication is owned by the EPA and is protected by Crown Copyright, unless credited otherwise. It is licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0), subject to the exemptions contained in the licence. The legal code for the licence is available at Creative Commons.

The EPA asserts the right to be attributed as author of the original material in the following manner:  
© State of New South Wales and the NSW Environment Protection Authority 2019.

**Published by:**

NSW Environment Protection Authority  
59 Goulburn Street, Sydney NSW 2000  
PO Box A290, Sydney South NSW 1232

**Phone:** +61 2 9995 5000 (switchboard)

**Phone:** 131 555 (NSW only – environment information and publications requests)

**Fax:** +61 2 9995 5999

**TTY users:** phone 133 677, then ask for 131 555

Speak and listen users: phone 1300 555 727, then ask for 131 555

**Email:** [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)

**Website:** [www.epa.nsw.gov.au](http://www.epa.nsw.gov.au)

Report pollution and environmental incidents

Environment Line: 131 555 (NSW only) or

[info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)

See also [www.epa.nsw.gov.au](http://www.epa.nsw.gov.au)

ISBN 978 1 922260 37 6

EPA 2019P1502

October 2019

**Cover image** – Excavator loading coal into dump truck/EPA.

# Introduction

**This handbook has been prepared by the NSW Environment Protection Authority (EPA) in consultation with the mining industry and the Department of Planning, Industry and Environment. It is designed to assist mine operators improve air quality for communities.**

This handbook will help mining equipment operators, mining supervisors and mining superintendents identify when operational changes are needed to minimise dust.

It will also help to ensure consistency amongst environmental regulators.

A series of factors to consider are listed on the pages with the photographs.

The symbols on the photographs depict the following conditions and expectations:



Dust levels are being managed.



Dust levels are increasing and operators should consider if further action to reduce dust is required.



Dust levels require operators to take action to control dust, including potential to make operational changes.

The coloured lines on the photographs provide a visual tool for assessing if operational changes are needed to minimise dust and if mining activities are being conducted in a proper and efficient manner.



# Vehicles on haul roads

Factors to consider when assessing if operational changes to haul roads are needed:

## Weather conditions

During periods of strong winds there is increased potential for dust from haul roads to be transported offsite. During calm conditions dust generated from haul roads is more likely to settle back within the mine site.

## Location

Dust generated from elevated haul roads and dump sites is more likely to be transported offsite than from haul roads deep within the pit.

## Proximity to site boundary

Dust generated from haul roads near the mine site boundary is more likely to be transported offsite than dust from haul roads in the centre of the mine site.

## Proximity of the emission to sensitive receptors

Dust generated from haul roads close to neighbouring properties is more likely to cause a nuisance than dust from haul roads that are remote from residences.

## Duration of the emission

Persistent emissions of dust from haul roads increase the risk of problem dust leaving the mine site.

## Occupational safety

Some dust minimisation techniques may increase occupational safety risks.



This series of photos shows dust levels with and without the application of water to the haul road.

# Drilling rigs

Factors to consider when assessing if operational changes to drill rigs are needed:

## Weather conditions

During periods of strong winds there is increased potential for dust from drill rigs to be transported offsite. During calm conditions dust generated from drill rigs is more likely to settle back within the mine site.

## Location

Dust generated from elevated benches is more likely to be transported offsite than from benches deep within the pit.

## Proximity to site boundary

Dust generated from drill rigs located near the mine site boundary is more likely to be transported offsite than dust from drill rigs in the centre of the mine site.

## Proximity of the emission to sensitive receptors

Dust generated from drill rigs close to neighbouring properties is more likely to cause a nuisance than dust from drill rigs that are remote from residences.

## Duration of the emission

Persistent emissions of dust from drill rigs increase the risk of problem dust leaving the mine site. Short bursts of dust can be expected in the initial drill phase of collaring the hole.



This series of photos shows dust levels with and without water injection and dust curtains.

# Excavator loading

Factors to consider when assessing if excavator loading of trucks requires operational changes:

## Weather conditions

During periods of strong wind there is an increased potential for dust from excavator loading to be transported offsite. During calm conditions dust generated from this activity is more likely to settle back within the mine site.

## Location

Dust generated from elevated benches is more likely to be transported offsite than from benches deep within the pit.

## Proximity to site boundary

Dust generated from excavator operations located near the mine site boundary is more likely to be transported offsite than dust from excavator operations in the centre of the mine site.

## Proximity of the emission to sensitive receptors

Dust generated from excavator operations close to neighbouring properties is more likely to cause a nuisance than dust from excavator operations that are remote from residences.

## Duration of the emission

Persistent emissions of dust from excavator loading operations increase the risk of problem dust leaving the mine site.

## Occupational safety

Some dust minimisation techniques may increase occupational safety risks.

This series of photos shows dust levels with and without the application of water to the bench prior to being excavated.

