

AIR QUALITY IN THE UPPER HUNTER

ACTIONS TO IMPROVE AIR QUALITY AND MANAGE IMPACTS

Introduction

Dust emissions from mining activities can be a serious issue if not closely monitored and effectively controlled. The NSW mining industry works very hard to meet the consistently high air quality standard that the NSW Government sets to preserve the health and safety of the communities in which mining operates.

Various government and industry initiatives contribute to NSW having air quality that is considered good by world standards and is generally comparable with other Australian jurisdictions.

This fact sheet contains information on the key actions that the NSW Government and mining operations in the Upper Hunter are undertaking to ensure that emissions are minimised wherever possible, and should air quality issues arise, that they are effectively managed.

The Upper Hunter Air Quality Monitoring Network

The Upper Hunter Air Quality Monitoring Network is an industry funded and government managed real time ambient air quality monitoring network, operated independently by the Office of Environment and Heritage (OEH), and administered by the NSW Environment Protection Authority (EPA).

The Upper Hunter is the most densely monitored region in NSW relative to its size. The network includes fourteen air quality monitoring stations in strategic locations around Upper Hunter mining areas and populated centres, including Muswellbrook and Singleton, that provide publicly available, real-time information about air quality across the region, helping to inform air quality management strategies. Each mine operates an extensive network of monitoring stations in and around each operation that provides up to date data in real time.

OEH has produced a map of the Upper Hunter Air Quality Monitoring Network sites, which displays a rolling 24-hour average for PM¹⁰ and PM^{2.5} results, while numbers for Nitrogen dioxide (NO²), Sulfur dioxide (SO²), wind speed and wind direction values are hourly averaged data. All readings are updated hourly. The Upper Hunter Air Quality Monitoring Network map can be viewed here: <http://www.environment.nsw.gov.au/aqms/uhunteraqmap.htm>

OEH publishes regular seasonal updates of the results of the Upper Hunter Air Quality Monitoring Network. Upper Hunter air quality has been classified as generally good over eleven successive reports from Autumn 2015 to Winter 2017. Detailed Air Quality Monitoring results and seasonal updates are available here: <http://www.environment.nsw.gov.au/topics/air/upper-hunter-air-quality-reports>

Upper Hunter Dust Risk Forecast Scheme

OEH and the EPA collaborated to develop a dust risk forecast scheme for the Upper Hunter to support actions by mines to reduce dust from operations in adverse weather conditions.

The scheme is designed to identify weather conditions that cause dust emissions from within the Upper Hunter Valley to be the dominant contributor to higher particle (PM¹⁰) concentrations in major town centres such as in Singleton. A trial was undertaken with mining operations in the Upper Hunter in Spring 2017, and the results are being analysed to evaluate the skill of the forecast scheme.

Industry actions to reduce air quality impacts

Minimising dust is a part of daily work procedures at Upper Hunter mines and is the responsibility of all mine workers. Effective air quality management begins with the way a mine is designed, and continues into its operational management, right up to the end of its life through rehabilitation.

Mining operations in the Upper Hunter have adopted the consistent use of weather forecasting information to reduce or avoid air quality impacts. By planning ahead and making better informed decisions about managing air quality at their operations, sites can determine if adverse conditions are forecast, and implement appropriate measures to minimise the impact, including:

- Postponing blasting to avoid unfavourable wind conditions;
- Closing elevated exposed working areas, and operating only at lower levels;
- Limiting traffic to main haul roads;
- Wetting dry areas by using water carts;
- Reducing vehicle speeds to minimise wheel generated dust; and if necessary,
- Ceasing all operations until conditions improve.

Following the NSW EPA's introduction of legally binding Pollution Reduction Programs on coal mines throughout NSW in 2013, all coal mines are now controlling at least 80% or more of their dust emissions from dirt haul roads (a major source of potential dust emissions from mining operations).

Mining operations in the Upper Hunter are also improving their management of coal train dust along the rail corridor by avoiding overfilling and spillage of coal during loading, developing clean up procedures for coal deposited on the outside of wagons, and reviewing wagon door maintenance procedures.

Community engagement through the Upper Hunter Mining Dialogue

The Upper Hunter Mining Dialogue works with community stakeholders in the Upper Hunter to address the cumulative impacts of mining in the region, including air quality. Various members of the community, business, local government and industry are involved in the Dialogue and work together to address any issues that are raised within mining communities regarding air quality, through our Emissions and Health projects and working groups.

Key projects the Dialogue has implemented since its establishment in 2011 include:

- Development of a weather forecasting tool that enables operations to anticipate adverse weather conditions and take steps to prepare their operations to minimise dust;
- Working with the NSW Government to update the Mine Dust and You Fact Sheet and;
- Development of a community education video titled **'Clearing the Air'** demonstrating the actions taken on a mine site to minimise dust emissions.

For information regarding air quality in the Upper Hunter and why it is important that it be managed effectively, please see the Dialogue's fact sheet 'What Is Particulate Matter and Why Is It Important?' for more information on how particulate matter can impact air quality in the Upper Hunter.

For more information about the Dialogue and how you can get involved, visit: www.miningdialogue.com.au

