Huntly mine transition and Pinjarra refinery production increase

Environmental assessment

Air quality

Alcoa has been operating in Western Australia since 1963. Our Huntly and Willowdale mines send mined bauxite to our Pinjarra and Wagerup refineries where it's refined into alumina, the material used to make aluminium.

Aluminium plays a key role in decarbonisation. It's found in solar panels, wind turbines, electric vehicles, medical equipment and more. We continue to rely on it every day.

The assessment

We are seeking approval to transition Huntly Bauxite Mine to new operating areas and increase alumina production at Pinjarra Alumina Refinery by 5%. This requires assessment by the Environmental Protection Authority (EPA) and approval by the State and Commonwealth Governments to ensure it meets environmental standards and minimises impacts to the environment, cultural values and local communities.

Transitioning to new mine regions is essential for the continued operation of the Huntly mine and Pinjarra refinery. This project will protect thousands of ongoing local jobs, helping sustain the regional economy.

In preparing the Environmental Review Document we have carried out modelling of dust and emissions and updated our refinery health risk assessment, demonstrating the refinery is safe for employees and surrounding community.

EPA environmental objective aims to

keep the air clean and minimise dust and emissions to protect people's health, the environment, and quality of life.

Key terms

Air quality – Refers to how clean or polluted the air is, based on its chemical, physical, and biological characteristics. Good air quality supports healthy communities, ecosystems, and the environment.

Proposed activities

Alcoa's proposed mining and refining activities that could impact air quality include:

- Clearing of native vegetation.
- Generating power.
- Soil disturbance from construction and mining operations.
- Alumina refining and storing residue.

Potential impacts

Mining and refining activities have the potential to impact air quality and:

- Affect nearby residents and visitors to public spaces and recreational areas through dust generation.
- Breach national air quality guidelines.

Managing impacts

Alcoa will continue to minimise air quality impacts from mining and refining by implementing measures to reduce dust and emissions. Key actions include:

- Locating mine pits and infrastructure away from residential and recreational areas.
- Implementing permanent and temporary dust suppression measures across mining and refining operations, including sealed roads, parking areas, and using water trucks.
- No burning of cleared vegetation to reduce emissions.
- Adjusting the size and timing of blasts based on weather conditions to minimise dust generation.
- Using alternatives to blasting such as machinery to break up rock when mining is close to landowners or recreational areas.
- Covering conveyors to control dust.
- Limiting haul truck loads to prevent spillage and reduce dust.
- A regular program of inspection and maintenance of boiler and calciner stacks at the refinery to ensure effective operation.
- Using low emission technology on boiler stacks to limit emissions.
- Processing residue to increase density and reduce dust.

How Alcoa monitors potential impacts

Dust monitoring

- Implement a dust monitoring network to monitor sources of dust such as bauxite stockpiles as well as ambient air quality.
- Integrate this with other data sources, such as weather, to create predictive modelling of dust emissions and maintain compliance.
- Monitoring of dust emissions against National Environmental Protection (Ambient Air Quality) Measure.

Regulatory oversight

- Monitoring reports demonstrating compliance with relevant environmental approval conditions.

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