



Wilgerup Mine Development

Iron Ore Dust and You

People living near the proposed Wilgerup mine site, along the railway line and near Port Lincoln Wharf have asked about the possible effects of iron ore dust on their health, neighbourhood amenity, crops and to their water supplies. This fact sheet has been prepared to answer these questions and to explain the controls that Centrex plan to implement to reduce dust emissions.

Investigations

Dust and air quality surveys have revealed that there would be limited affects of iron ore dust outside of the proposed Wilgerup mine site locality and the mineral exporting facility at the Port Lincoln Wharf site.

Dust Management

Dust management is an important environmental consideration in the iron ore industry, and one which Centrex takes very seriously.

Centrex is applying leading industry practice design to ensure that all negative effects on public and environmental health, safety and amenity from dust are mitigated.

Dust control measures form a significant part of the proposed infrastructure design. For Centrex, dust control begins at the mine site and continues until the ore is loaded onto a ship and dispatched to market.

How would Centrex control dust from mining and transportation of iron ore?

The iron ore is proposed to be crushed on site at the Wilgerup mine.

Some of the key dust mitigation measures undertaken at the proposed mine site would include water spraying and progressive revegetation to ensure that dust impacts are minimised.

The crushed ore would be transported from the mine site via trucks to a new rail siding near Tooligie.

The crushed ore loaded into haulage trucks contains a certain moisture content which will aid with dust suppression. During extremely hot weather conditions, material may be sprayed with a fine water mist (to create a crust on top of the load), if required, before each truck departs the site. The trucks would travel over rumble strips to ensure that any dust on the outside of the trucks is shaken off prior to exiting the mine site.

At the proposed Tooligie rail siding, the iron ore would be stockpiled before being loaded onto the rail wagons. An onsite watering truck would be used to control dust on stockpiles and roads at the rail siding.

The trains would be managed by the rail operator, Genesee & Wyoming Australia, for the journey from the rail siding to the Port Lincoln Wharf.

How would Centrex control dust during iron ore unloading and storage at Port Lincoln Wharf?

Once the train reaches the Port Lincoln Wharf, the rail wagons would be unloaded within an upgraded rail unloading facility with a purpose built dust control system. Two rail wagons would be unloaded simultaneously, each emptying their loads through bottom discharge doors into a chute that feeds iron ore on to an underground conveyor. The iron ore on the underground conveyor is transferred into another enclosed conveyor that transfers the iron ore into the storage shed.

Dust capture suction grills would be located next to the chute, at a position to maximise dust capture. The externally positioned extraction fans suck air from inside the facility through ducting into bag filter systems which are specially designed to contain the dust particles from the air.

Although the dust control system is the main way of containing dust within the unloading facility, flexible plastic doors to closely match the shape of the railway wagons are also proposed at each end of the unloading facility. The flexible curtains would touch the railway wagons along their sides and top and are a further measure to prevent dust from escaping.



Example of a similar ore storage shed



The in-loading conveyor system which transports iron ore from the rail unloading facility to the storage shed is enclosed with a dust control system at each transfer point where the conveyor changes direction. This dust control system is similar to the rail unloading facility's system described above.

The design of the modified storage shed for the iron ore also integrates a high level of dust control technology. The existing Block 5 storage shed would be modified suitable for iron ore storage, including upgrading the existing dust control system. A negative pressure atmosphere would be created inside the shed to keep dust inside the building. Water sprays and dust extraction fans with filtration bags are also incorporated within the proposed design.

What about controlling dust during ship loading?

From the storage shed, the ore would be loaded onto the out-loading conveyor system and transported along the wharf to a new shiploader on berth 4. The out-loading conveyor is a state-of-the-art fully enclosed conveyor with a zero emission target. A dust control system identical to the inloading conveyor system would be installed at transfer points on the wharf.

The enclosed shiploader boom would have a telescopic loading 'sock' which would reach directly into the ship's holds for loading. Water sprays on the telescopic chute is the final stage in minimising dust escape to the marine environment.



Example of a similar telescopic loading sock

Could dust from the Port Lincoln Wharf affect me?

An assessment of the potential impacts of dust was undertaken using computer modelling to predict PM₁₀ dust emissions (small particulates that may affect human health) from the proposed mineral exporting facility.

The assessment found that residents near the Port Lincoln Wharf should not be affected by dust caused by the proposed development. This was determined by comparing the results from the modelling against the National Environment Protection Measure (NEPM) Ambient Air Quality, which has a standard and guideline for safe PM₁₀ levels.

The modelling found that during the worst case weather conditions for dust, the PM₁₀ levels would be significantly lower than the Environment Protection Measure (NEPM) Ambient Air Quality PM₁₀ standard.

Centrex is working with the community and other stakeholders to ensure all concerns are discussed and addressed. It is the company's policy to be a transparent, sustainable and approachable corporate citizen of the Eyre Peninsula. We recognise and respect existing industries including fishing, tourism and agriculture and intend to work with all stakeholders to ensure the co-existence of our operations for the benefit of the entire local community.

Centrex has also published fact sheets on the following topics:

- Fact Sheet 1 - Project Overview
- Fact Sheet 2 - Mine Site Environmental Considerations and Remediation
- Fact Sheet 3 - Port Lincoln Wharf
- Fact Sheet 5 - Noise

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