



Dust Monitoring Campaign at Port Hedland

Purpose

The purpose of this Fact Sheet is to provide information on a dust monitoring campaign that is being undertaken by the Department of Environment Regulation (DER) at the Town of Port Hedland (Port Hedland), located in Western Australia's Pilbara region.

Introduction

DER provides strategic, technical and policy advice on air quality matters. Ongoing air quality monitoring is undertaken by the Department at a number of metropolitan and regional centres within Western Australia, in accordance with the National Environment Protection (Ambient Air Quality) Measure (Air NEPM). Short-term campaigns are also undertaken in other areas to supplement existing information.

The short-term campaign now underway in Port Hedland will run until 30 June 2017. A report on its findings is expected to be released in late 2017.

The campaign is being carried out as Port Hedland receives dust from multiple sources and experiences high dust levels.

In 2009, the Port Hedland Dust Management Taskforce (the Taskforce) was established to plan for and provide effective dust management strategies for the town. The Taskforce released the *Port Hedland Air Quality and Noise Management Plan, 2010* which included a number of recommendations including the adoption of an interim air management criterion for Port Hedland (east of Taplin Street).

In February 2016, the Department of Health released the *Port Hedland Air Quality Health Risk Assessment for Particulate Matter*, which included a recommendation to continue the application of the interim air management criterion in residential areas of Port Hedland.

Dust Monitoring Campaign

DER's dust monitoring campaign is designed to help determine dust sources and the movement of dust plumes in the air.

In an environment such as Port Hedland — with a range of industrial, natural and other background

dust sources all potentially contributing to overall dust levels — attributing the source of high dust levels is complex. To assist with this, DER will use the monitoring campaign to assess the suitability of applying Light Detection and Ranging (LiDAR) technology as a tool for assessing dust impacts on local communities.

Equipment Used

For the period of the campaign, DER will install a LiDAR unit as shown in Figure 1. The LiDAR works by emitting a light beam and measuring the backscatter from particles (or dust) in the air. When used together with air quality monitoring equipment, which measures dust concentrations, it can be a useful tool in identifying dust plumes and the movement of these plumes in the air.

In addition, the Town of Port Hedland will strategically place two Beta Attenuation Monitors (BAMs) which will gather additional data to that from monitoring equipment already located within the area.



Figure 1: Windcube 200S LiDAR

What will be Monitored

The air quality pollutant to be monitored is particulate matter found in air that is less than 10 micrometres in diameter (PM₁₀). The LiDAR unit will primarily focus on assessing dust lift off sources, while the BAM results will measure air quality against the Taskforce interim air management criterion.

Air Quality Criteria

The *Port Hedland Air Quality and Noise Management Plan 2010* provides an interim criterion for particulate matter as shown in Table 1.

Table 1. Air Quality Particle Criterion

Pollutant	Averaging Period	Maximum concentration (micrograms per cubic metre)	Allowable annual exceedances (natural events)
Particulate Matter as PM ₁₀	1 day	70µg/m ³	10

Results

A live feed of the data gathered as part of the dust monitoring campaign is accessible from DER's website at www.der.wa.gov.au/porthedland. A report on the findings is expected to be released in late 2017.

More Information

For advice on related matters, please contact DER on 6467 5000.

This document is available in alternative formats and other languages on request.

Related Documents

Additional publications about air quality are available online from www.der.wa.gov.au/your-environment/air, or can be requested by phoning 6467 5000.

Legislation

This document is provided for guidance only. It should not be relied upon to address every aspect of the relevant legislation. Please refer to the State Law Publisher (SLP) for copies of the relevant legislation, available electronically from the SLP website at www.slp.wa.gov.au.

Document Versions

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Limitations

A LiDAR is able to give a useful measure of the general level of particles in the air. Although often presented as a concentration in air, the LiDAR is not an approved method for measuring dust against criteria. Instead, LiDAR particulate data are indicative and should be considered as an approximate measure of particulates in the air.

The LiDAR technology is not intended to be used as a basis for enforcement action taken by DER, rather as a tool to inform decision making under Part V of the *Environmental Protection Act 1986*.

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Limitation

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Legal Advice

The information provided to you by DER in relation to this matter does not constitute legal advice. Due to the range of legal issues potentially involved in this matter, DER recommends that you obtain independent legal advice.