

Environmental Standard – Handling of Dry Bulk Cargo

1. PURPOSE

The purpose of this Environmental Standard is to define the minimum standard accepted by Tasmanian Ports Corporation Pty Ltd's ("Tasports") to prevent **dust** related **environmental harm** or an **environmental nuisance** arising from dry bulk cargo **handling** on any of Tasports owned, operated or managed land and/or berths ("facilities").

This Standard provides a framework against which environment management plans are assessed, accepted and monitored by Tasports' to ensure that our staff, contractors, customers, port users and the public ("Tasports' Personnel") are not adversely impacted by nuisance dust.

2. SCOPE

This Environmental Standard:

- forms part of the suite of documentation associated with Tasports' Integrated HSE Management System and is intended to support the implementation of the Tasports' Environmental Policy [Ref.1];
- applies to all Tasports' customers, licensees, tenants and other port users importing or exporting dry bulk cargo through Tasports' **facilities**;
- addresses only dust related environmental harm or nuisance.

3. OBJECTIVE

The objective of this Environmental Standard is to ensure that the handling of dry bulk cargo on TasPorts facilities:

- prevents and minimises exposure of **Tasports' Personnel** and other port users to dust;
- avoids dust related environmental harm or environmental nuisance, including contaminating surrounding land, surface and marine waters and port sediments which may impact on the production of edible fish or ecosystem health and smothering vegetation;
- does not adversely impact the visual amenity of third parties;
- does not contaminate the products of other port users;
- does not restrict operational navigation and shipping visibility, in extreme situations;
- does not reduce the useful life of buildings, structures, property and materials; and
- complies with all applicable legal and other requirements.

4. DRY BULK CARGO

The dry bulk cargo typically handled on Tasports' facilities includes:

- Minerals and metals, includes but is not limited to: Bauxite, Aluminium Oxide, Manganese Ore and met fines, Sinter, Magnetite, Lead concentrate, Zinc concentrate, Copper concentrate and slag, Gypsum, Calcite; and mineral sands;
- Cement;
- Coke;
- Bentonite clay;
- Coal and Anthracite coal;
- Armour rock;

- Clinker;
- Fertiliser; and
- Sand.

5. LEGAL AND OTHER REQUIREMENTS

Under the *Environmental Management and Pollution Control Act 1994* (Tas) (“EMPCA”), it is an offence to cause environmental harm or an environmental nuisance. A person has a general environmental duty to take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused by an activity (i.e. dust generation) conducted by that person (“General Environmental Duty”).

The *National Environment Protection (Ambient Air Quality) Measure* (Cth) [Ref.2], sets national standards for six key air pollutants to which most Australians are exposed, including particles PM10 and PM2.5 (“particulates”). This measure sets a PM10 guideline value of 50µg/m³ for a 24- hour average period.

The Tasmanian *Environment Protection Policy (Air Quality) 2004* states that diffuse sources of air pollution including those that may cause environmental nuisance such as dust, should be managed using best practice environmental management so as to:

- minimise emissions; and
- manage those emissions that are unavoidable in a manner that minimises impacts on health, safety or amenity.

The *Work Health and Safety Act 2012* (Tas) (“WHS Act”) provides a framework to protect the health, safety and welfare of all workers at work and of other people who might be affected by the work. The *Work Health and Safety Regulations 2012* (Tas) (“WHS Regulations”), specify the way some duties under the **WHS Act** must be met and prescribes procedural or administrative requirements to support the WHS Act, including for example dust containing lead and asbestos. The following approved code of practices under section 274 of the WHS Act provide guidance on and include provisions relating to the management of health impacts associated with dust in the workplace:

- Code of Practice Managing the Work Environment and Facilities [Ref.3]; and
- Code of Practice Managing Risks in Stevedoring [Ref.4].

Tasports’ *Standard Terms and Conditions for Port Access* (“Port Access Terms”) specify environmental requirements that apply to all persons that use and access a port owned by Tasports’. The Port Access Terms require all port users to (among other things):

- comply with all applicable laws, including environmental laws and directions given by Tasports’;
- not cause or permit any contamination; and
- immediately notify Tasports’ on becoming aware of any contamination or potential breach of obligations under the Port Access Term or pursuant to the *Environmental Management and Pollution Control Act 1994* (Tas), *Pollution of Waters by Oil and Noxious Substances Act 1987* (Tas) or any environmental laws or requirements.

Additional environmental requirements may also be included in leases, licences, facility management agreements, service agreements, consultancy agreements, stevedoring arrangements and other Tasports’ contracts and Tasports’ policies and procedures.

Identified applicable legal and other requirements relating to dust prevention, dust related environmental harm or an environmental nuisance attributed to dry bulk cargo handling are summarised in the Tasports’ Environmental Legal and Other Requirements Register [Ref.5].

6. REQUIREMENTS

6.1. Environmental Management Plan (EMP)

1. Any person performing dry bulk handling, must submit to the Tasports' Manager Environment, an environmental management plan ("EMP") at least 14 days prior to the commencement of any dry bulk cargo handling.
2. The **EMP** may be a standalone document, a series of safe operating procedures or safe work practices or part of a combined management plan, unless the activity or regulatory requirements state otherwise. Tasports' will review and assess the EMP and either accept the EMP or require the person performing dry bulk handling to amend the EMP and resubmit it to Tasports'.
3. Work must not commence until Tasports' has accepted the EMP. For the avoidance of doubt, notwithstanding any review, assessment or acceptance by Tasports' of the EMP, Tasports' will not be taken to have approved of, endorsed or be responsible or liable for the EMP (or any of its contents) and the EMP is not deemed to have complied with any applicable laws.
4. The person performing dry bulk handling must (and must ensure that each of their personnel) comply with the accepted EMP at all times.
5. The EMP must include:
 - the name and contact details of the Person In Charge ("PIC") of the dry bulk cargo handling activity;
 - a description of the activity including product quantities, type and operating hours;
 - a risk assessment of dry bulk handling at the **site** against the objectives of this standard;
 - prescribed practices for reducing and controlling and mitigating the risks identified in the risk assessment, including but not limited to:
 - product type;
 - plant and equipment selection;
 - loading and unloading practices;
 - stockpile management including maximum height;
 - transport; and
 - clean-up.
 - any applicable **trigger criteria** for stopping work and/or corrective action; and
 - demonstrate how the PIC will monitor and evaluate the controls to mitigate the risks, including, for example documented visual inspections.
6. The EMP may include a site environment plan or map to help illustrate the activity location, presence of other port users and sensitive receptors, and the location of environmental control equipment and devices to mitigate and monitor nuisance dust.

6.2. Loading and Unloading

1. The PIC must select, operate and maintain appropriate loading and unloading plant and equipment to prevent the spillage of cargo and the generation of dust.
2. Prior to the commencement of loading / unloading of dry bulk cargo from a vessel, sufficient deflectors (or equivalent) must be attached and positioned to prevent particulates discharging directly into Port waters. As a minimum, deflectors (or equivalent) must be placed between the hopper and the vessel and at the point where the grab crosses the vessel's rail.
3. During loading / unloading of dry bulk cargo from a vessel, materials must be released at a height and a speed that minimises escape of dust.
4. The direct tipping of dry bulk cargo onto the wharf deck by trucks must be discouraged.
5. All cargo handling must be carried out at all times in a manner that minimises the spillage of cargo and the generation of dust.
6. Weather data must be used to predict adverse weather conditions to allow pro-active dust mitigation measures.

6.3. Stockpile Management

1. Where stockpiling is required, all stockpiles of dry bulk materials must be located in an appropriate hardstand area within the boundary of the leased/licensed area to prevent the transfer of sediment or contaminants into the stormwater system, groundwater system or into Port waters.
2. Clean water diversions must be installed prior to the establishment of stockpiles.
3. The number, footprint, height and length of time stockpiles are on the site must be kept to a minimum.
4. Stockpile heights must be reduced when severe weather is forecast and must be commensurate with the material type stockpiled. For example, highly dispersive materials.
5. Sediment containment and clean water diversion controls must be maintained at all times.
6. Stockpile stabilisation controls must be implemented that are appropriate to the material type, for example, use of water sprays or misting equipment, covering or application of a stockpile veneering or crusting agent and/or placement of wind barriers.
7. When handling the stockpile restricted mobile plant and equipment speed limits must be followed.

6.4. Transport

1. When transporting dry bulk cargo on site or on public roads, vehicles must be fitted with a means of ensuring that dust and or cargo is not released during transport. This includes covering loads and may include undertaking tailgate inspections and brush down as required.

6.5. Clean-up and Waste Disposal

1. Cleaning plant and equipment must be readily available to allow for progressive clean-up and removal of spillage during bulk cargo handling. For example a vacuum street sweeper, wet vacuum trailer, collection bins and/or something similar.
2. All spillage arising from the handling of dry bulk cargo must be cleaned up and where necessary disposed of at the waste disposal location documented in the accepted EMP.
3. The location and level of final clean must be accepted by the Tasports' Operations Supervisor prior to completion of dry bulk handling. Final clean up may include manual sweeping and collection of cargo residues around wharf capping, bollards and other wharf features, the removal of cargo residues from stormwater pits, washing of conveyor systems, disposal of contaminated wash water, and provision of vacuum sweepers.
4. Cargo residues must not, at any time, be swept or disposed of into Port waters or stormwater systems.

6.6. Monitoring and Evaluation

1. The effectiveness of implemented mitigation measures and controls must be monitored through documented audits and inspections.
2. Monitoring programs must be considered if the bulk handling activity/activities undertaken on site are considered to have a very high risk of causing environmental nuisance or harm (e.g. visible dust plumes).
3. Any dust monitoring program must be developed based on levels of identified risk and in accordance with industry standards (for example Australian Standard AS/NZS 3580.1.1:2007 [Ref.9]).

6.7. Event & Action Management

1. All environmental hazards or incidents relating to dry bulk cargo handling must be reported to the Tasports' Operations Supervisor, recorded and tracked in the Tasports' Incident Management System (IMS). Such events may include, but are not limited to:
 - nuisance dust complaints;
 - loss of bulk product into Port waters;
 - exceeding the monitoring criteria set for the site or the dry bulk handling Activity, e.g. PM₁₀ value of 50µg/m³ for a 24-hour average;

- insufficient implementation of the dust management controls set out in this Standard
 - particulates being visibly dispersed past the site during unloading/loading of bulk cargo.
2. Corrective and preventative actions arising from environmental hazards, incidents or monitoring programs must be tracked in the Tasports' IMS for effectiveness and closure.

7. DEFINITIONS

Dust	Dust is an aerosol formed by mechanical subdivision of bulk material into airborne fines having the same chemical composition. Dust particles are generally solid and irregular in shape and have diameters greater than one micrometre. The generic term used to describe solid airborne particles generated and dispersed into the air by processes such as handling, crushing and grinding of organic or inorganic materials such as rock, ore, metal, coal, wood or grain and stockpiling of materials and windblown dust.
EMP	Environmental Management Plan
Environmental Harm	As defined in the <i>Environment Management and Pollution Control Act 1994</i> , environmental harm means: (1) any adverse effect on the environment (of whatever degree or duration) and includes an environmental nuisance .
Environmental Nuisance	As defined in the <i>Environment Management and Pollution Control Act 1994</i> , environmental nuisance means a duty of care: (a) the emission, discharge, depositing or disturbance of a pollutant that unreasonably interferes with, or is likely to unreasonably interfere with, a person's enjoyment of the environment; and (b) any emission, discharge, depositing or disturbance specified in an environment protection policy to be an environmental nuisance;
Facilities	Tasports' owned, operated or managed land and/or berths
General Environmental Duty	As defined in the <i>Environment Management and Pollution Control Act 1994</i> , general environmental duty means the duty of care described in section 23A(1) ; (1) A person must take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person.
Handling	Handling includes, but is not limited to: The 'storage, movement, transfer, packing, disposal, decanting, transport' of dry bulk cargo
PIC	Person in Charge
PM10	PM10 is a fraction of dust less than 10 microns in size. This dust fraction has human health concerns as it can penetrate into the lower lung. PM10 is measure in µg/m3.
Site	Any site owned, operated, managed or controlled by Tasports'.
Tasports'	Tasmanian Ports Corporation Pty Ltd
Tasports' Personnel	Tasports's staff, contractors, customers, port users and the public
Trigger Criteria	There are 2 Trigger Criteria:

	<p>'corrective action' trigger criteria, is the specified ambient wind speed and direction and / or air Dust criteria, which if reached will result in corrective action being taken to reduce Dust emissions until the monitored results fall below the corrective action trigger level.</p> <p>The 'work stoppage' trigger criteria is the ambient wind speed and direction and / or air Dust criteria, which will result in work stoppage until the monitored results fall below the work stoppage trigger level.</p>
--	--

8. REFERENCES

1. Tasports', 2010, Environmental Policy, Tasmanian Ports Corporation, Tasmania
2. National Environmental Protection Council. 2003. National Environment Protection (*Ambient Air Quality*) Measure 2003: National Environment Protection Council Service Corporation, Adelaide, South Australia.
3. Safe Work Australia, 2011. Code of Practice Managing the Work Environment and Facilities Safe Work Australia, December 2011 [ISBN 978-0-642-33295-0]
4. Safe Work Australia, 2016. Code of Practice Managing Risks in Stevedoring, Safe Work Australia, December 2016 [ISBN 978-1-76028-907-2]
5. TasPorts, 2018 Environmental Legal and Other Requirements Register, Tasmanian Ports Corporation, Tasmania
6. Tasports', Standard Terms and Conditions for Port Access, Tasmanian Ports Corporation, Tasmania
7. National Environmental Protection Council. 2004. National Environment Protection (*Air Toxics*) Measure 2004: National Environment Protection Council Service Corporation, Adelaide, South Australia.
8. National Environmental Protection Council. 1998. National Environment Protection (*National Pollutant Inventory*) Measure 1998: National Environment Protection Council Service Corporation, Adelaide, South Australia.
9. Australian Standard AS/NZS 3580.1.1:2007 (Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment).