

Environment Management Series

DUST MANAGEMENT & FDR STANDARD

TOOLBOX PRESENTATION – WHYALLA SHARED FACILITY



Environment Management Series: EMS003 – Key Information: Dust Management & FDR Standard (V3)
(Whyalla Shared Facility – includes PP & Port Facilities)

WHAT ARE THE IMPACTS?

Dust from our Whyalla Shared Facility can contribute to:

- Reduced visual amenity due to dust in air and staining
- Regulatory attention (Licence non-compliance)
- Impacts to neighbouring community & third party property damage
- Complaints
- OH&S hazards
- Increased maintenance & running costs for some equipment



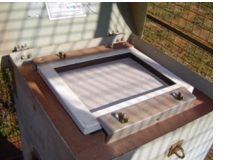
DUST MONITORING

What dust monitoring is in place?

The Whyalla Shared Facility has a comprehensive dust monitoring & measurement programme in place, providing both dynamic boundary emissions data to support the identification of management of dust emissions as well as longer term trend and performance.

Monitoring programmes consist of:

- Boundary monitoring (Dust Control Network) provides real-time dust data & source identification
- Community monitoring (dust monitors located within the community)
- High Volume sampling (impacts of the Whyalla Shared Facility operations on air quality)
- Dust Deposit Gauges (measures mass & type)
- Stack emission testing (annually)
- Fugitive Dust Ranking Observations by employees (explained later in presentation)





REGULATORY REQUIREMENTS

What are our obligations?

- To comply with our EPA Licence Conditions (Indenture Licence for the Whyalla Shared Facility) & Environment Protection Legislation
- To take all reasonable & practicable measures to prevent or minimise the generation of dust from all handling operations, stockpiles, open areas & transport activities
- To take all reasonable & practicable measures to maintain & operate all fuel burning equipment in a proper & efficient manner (generation of particulates)
- To ensure that nuisance dust levels experienced by the wider community are monitored & actions undertaken to minimise the effect

General Environmental Duty (Environment Protection Act, 1993)

‘A person must not undertake any activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm’

WHAT DO WE NEED IN PLACE?

- Clear understanding of who has responsibility for dust control
- Clear understanding of what our dust sources are
- Clear understanding of what controls to use and when
- Fugitive Dust Ranking Standard, to provide:
 - Awareness about what is “compliance” and what level of dust control is deemed acceptable by Liberty Primary Steel, neighbours and the regulators to maintain our ongoing licence to operate
 - Systematically identify and prioritise fugitive dust activities for improvement (incident reports, complaints)



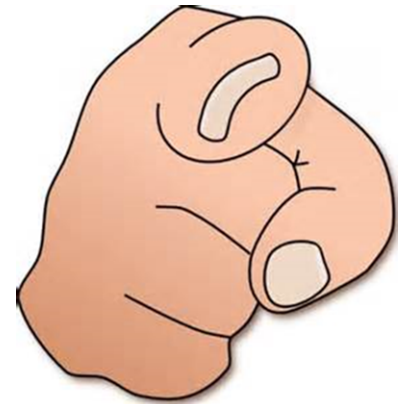
RESPONSIBILITY

1. Who is responsible for dust management?

EVERYONE!

Each plant area (including contractor areas) is responsible for determining:

- Sources of fugitive dust emissions
- Their environmental impacts (recorded on the Environment Risk Register)
- Control Measures
- Ensuring dust control measures are effective



RESPONSIBILITY

2 & 3. What are our significant dust sources & associated controls?

Dust Source	Controls
Process dust emissions	<ul style="list-style-type: none"> - Procedures / specific documented process controls - Environment Management Plans (EMP's)
Stack Emissions	<ul style="list-style-type: none"> - Cleaning plants / wet scrubbers / precipitators - Process control
Loading	<ul style="list-style-type: none"> - Minimise drop height - Consider weather conditions
Roads	<ul style="list-style-type: none"> - Water carts - Dust binding chemicals - Road sweepers (sealed roads)
Stockpiles	<ul style="list-style-type: none"> - Water cannon - Paper pulp
Transfer points	<ul style="list-style-type: none"> - Enclosure - Baghouse - Atomising sprays
Open Areas	<ul style="list-style-type: none"> - Open areas closure / minimisation - Reduced traffic / disturbance - Water carts - Paper pulp
Screening	<ul style="list-style-type: none"> - Atomising sprays - Hoods and covers - Procedures

DUST CONTROLS

Develop & implement a site-specific Environment Management Plan (EMP)



Use of dust suppressant chemicals & water sprays at transfer points



Enclosure of dusty machines & transfer points



Stockpile watering / paper pulping



Water tankers are used to apply water/chemical dust suppressants to sites within an area of operations that has the potential to generate dust including unsealed roads, haul roads and dump areas.



Train sprays

Minimise open areas by revegetating / timber chipping





WHAT NEEDS TO BE DONE?

We ALL need to:

- ➔ **Carry out regular Fugitive Dust Ranking (FDR) observations,**
- ➔ **Immediately respond with dust suppression/Environment Management Plan (EMP) controls**
- ➔ **Report incidents as required**

Refer to the next few slides on Fugitive Dust Ranking requirements

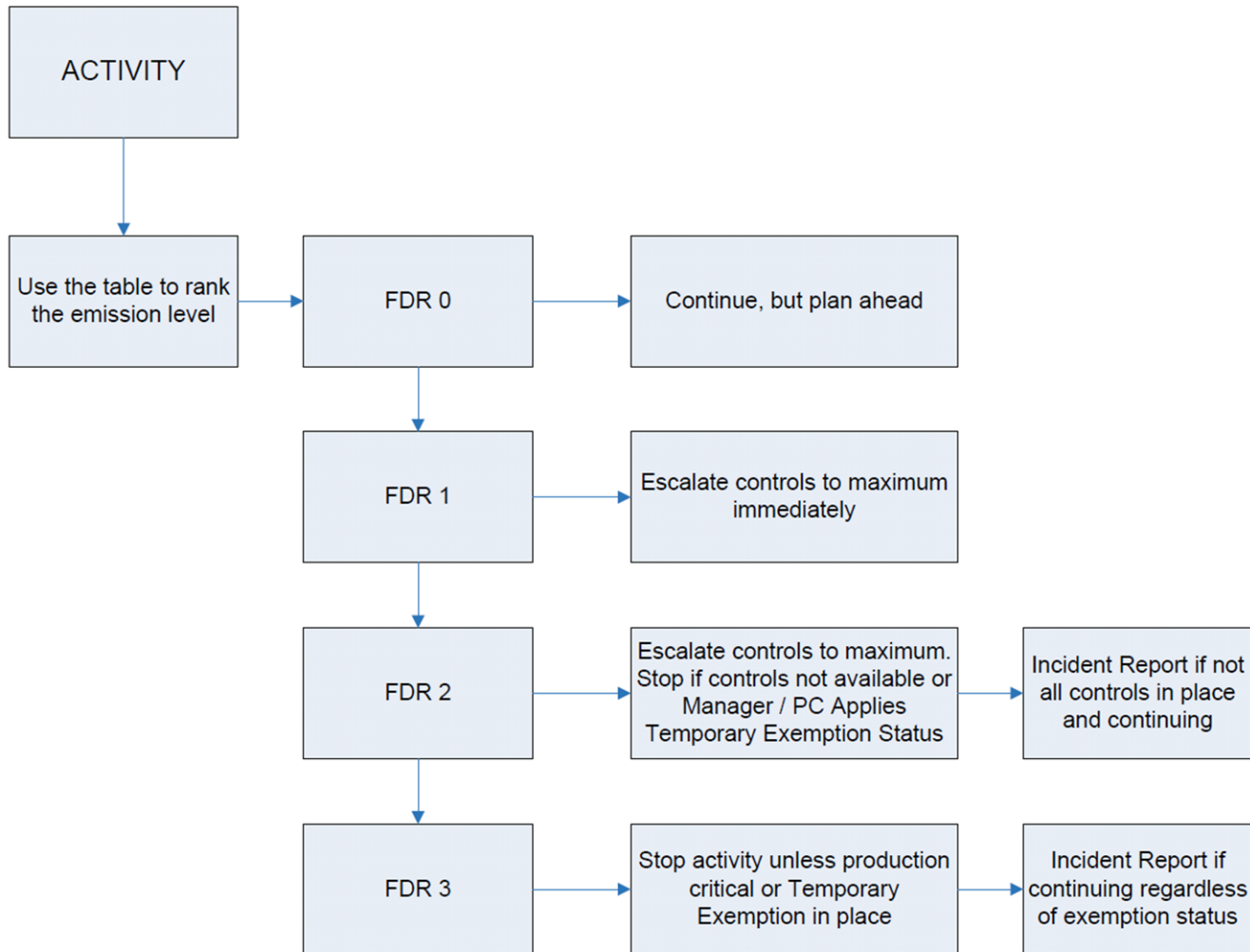
FUGITIVE DUST RANKING STANDARD (FDR) - WHAT IS IT?

- ➔ An innovative approach designed to empower employees and contractors to “own” dust suppression outcomes. Controls can be adjusted based on ranking or operations stopped completely.
- ➔ A simple common site wide standard that utilises an illustrated table (later slide) that all personnel can use to rank dust emission levels from any activity.
- ➔ Makes all personnel (employee or contractor) responsible for dust control.
- ➔ Provides clear instructions for corrective action.
- ➔ Provides a mechanism by which non-compliant activities will be risk ranked to prioritise improvement.





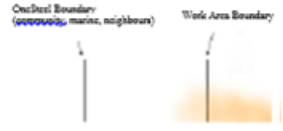





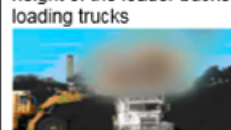

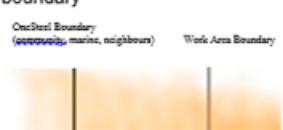
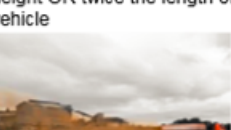
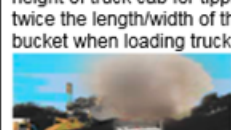

DUST CONTROL IS EVERYONE'S RESPONSIBILITY!

- Dust Control in the contractor-exclusive areas is the responsibility of the Contractor
- The targeted emission ranking level for Zone 1 (pelletising area) is **FDR0**. *A high level of control is required due to the close proximity of the Whyalla community*
- The targeted emission ranking level for Zone 2 (rest of the plant) is **FDR1 or lower**.
- Incident report when dust emissions reach FDR2 and the activity continues without all the EMP controls in place, or if dust emissions reach FDR3 and the activity is not stopped.

FDR FLOW CHART



FUGITIVE DUST RANKING TABLE (Whyalla Shared Facility)

FDR	FUGITIVE DUST TRIGGERS – Any one trigger applies, trigger columns 1 & 2 used preferentially, exemptions applied for known non-compliant activities					ACTION	REPORTING
	1. Receptor Impact (see instructions 1 + 2)	2. Stockpile Management, & all area based work	3. Roads / Vehicle Movement	4. Material Tipping	5. Material Processing (Crushing & Screening)	Note: All activities should have all applicable EMP controls in place at all times	(Not required until reporting requirement implemented)
FDR 0	No dust fall outside work area Dust is visible within area	Dust is raised Dust is visible inside the work area 	Dust raised to < half the vehicle height 	Dust raises to < half the height of the truck cab for tipping OR < half the height of the loader bucket when loading trucks 	Dust is barely visible 	Ensure EMP controls are in place	None required
FDR 1	Localised impact that warrants control measures Dust visible from outside work area Dust remains in the air	Dust leaving stockpiles and noticeable from outside work area Dust fall is within work area 	Dust under the height of the vehicle OR no greater than the length of the vehicle 	Dust under the height of the truck cab for tipping OR dust under the height of the loader bucket when loading trucks 	Dust falls away from falling product to the height of the conveyor & appears to settle within the work area 	Escalate control measures to maximum in EMP immediately	None required
FDR 2	Dust falls outside of work area but within the Steelworks Vision could be obscured Dust creates a potential safety hazard	Dust impacting outside of the work area 	Dust above the top of the vehicle OR dust twice the length of the vehicle 	Dust above the height of the truck cab for tipping OR dust above the height of the loader bucket when loading trucks 	Dust rises off the falling product 2m above the conveyor & appears to leave the work area 	Escalate control measures to maximum in EMP immediately If any EMP listed dust control measures are unavailable, continue without controls must be sought from Contractor Controller in same way as for a temporary Production Critical Task. Contractor Controller informs Dept Manager & places on central temporary exemption list.	Report only if continuing without EMP controls <i>Note: This applies whether temporary exemption status approved or not</i>
FDR 3	Dust impacting off-site e.g. on community, marine environment or neighbors	Dust extends outside Steelworks boundary 	Dust to more than twice the height OR twice the length of the vehicle 	Dust to more than twice the height of truck cab for tipping OR twice the length/width of the loader bucket when loading trucks 	Dust rises off the falling product to twice the height of the conveyor & drifts outside of the work area 	Stop activity unless: <ul style="list-style-type: none"> Essential for personal safety or Task is pre-approved as Production Critical by Dept. Manager, or Temporary Exemption status has been applied by CC, & Dept. Manager, & is placed on Temporary Exemption list 	Incident report within 24hrs if continue to operate <i>Note: This applies whether temporary exemption status approved or not</i>

IN SUMMARY

We ALL need to:

➔ **Consider the following when carrying out a potentially dust generating task-**

- Is unacceptable dust being generated?
- Are all pollution controls operating effectively?
(eg: sprays, road/open area dust suppression, baghouses, covers)
- Is the FDR standard being applied?

➔ **Carry out regular Fugitive Dust Ranking (FDR) observations,**

➔ **Immediately respond with the EMP controls**

➔ **Report incidents as required**