



Technical Bulletin - management approaches for
industrial fugitive dust sources

Air & Waste Management Association Ontario Section
Conference
June 21, 2017

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Technical Bulletin - management approaches for industrial fugitive dust sources

- recently updated (February 2017) and available at webpage [Management approaches for industrial fugitive dust](#)
- formerly an appendix in the ministry's [Procedure for Preparing an Emission Summary and Dispersion Modelling \(ESDM\) Report](#) document, now it is a separate technical bulletin.

Technical Bulletin - management approaches for industrial fugitive dust sources

- An overview of best management practices for industrial sources of fugitive dust emissions.
 - typical sources such as material handling and roads,
 - common abatement technologies and techniques considered to be effective
- To be used as guidance on practices to include in a fugitive dust control plan.

Addressing fugitive dust in ESDM reports

- ESDM Procedure document Chapter 7.4 sets out criteria for assessment of fugitive dust sources.
- Generally, fugitive dust emissions from on-site roadways, storage piles, and other fugitive sources may be excluded from the dispersion modelling assessment of compliance with ministry POI Limits, where:
 - the nature of the fugitive dust emissions is such that they are not likely to pose a health risk to humans; and
 - The emissions are relatively small or have been minimized through effective implementation of a fugitive dust control plan, consistent with best management practices.
- Proponents may be asked to include sources of fugitive dust in the ESDM report if the BMP plan is not acceptable to the ministry.

Management approaches for industrial fugitive dust

2017 version compared to 2009 version

- 2017 Introduction similar to 2009 version, with clear link to the ESDM procedure document
- Elements of a Best Management Plan
 - (Plan, Do, Check, Act)
- More detail on best management practices for fugitives from:
 - Storage piles (chapter 4.2)
 - Transport of Materials (chapter 4.3)
 - Material Handling/Transfer Activities (chapter 4.4)
 - Yard Management (chapter 4.5)

Chapter 4 Best Management Practices

- 4.1 Process sources
- 4.2 Storage piles
 - Enclosures
 - Barrier and shelter
 - Location, height and slope of piles
 - Covers on piles
 - Water /dust suppressant application

Chapter 4 Best Management Practices

- 4.3 Transport of Materials
 - Paved surfaces
 - Unpaved surfaces
 - Truck travel route
 - Road maintenances/cleaning
 - Freeboard for truck loads
 - Covers on truck loads
 - Cleaning of trucks and covers after each load
 - Sampling of fugitive sources

Chapter 4 Best Management Practices

- 4.4 Material Handling/Transfer Activities
 - Use of conveyors and enclosures
 - Transfer techniques
 - Water application
 - Scheduling of loading/unloading activities
- 4.5 Yard Management
 - Windbreak measures
 - Re-vegetation
 - Water/dust suppressant application
 - Weather monitoring
 - Spillage/overflow

Chapter 4 Best Management Practices

- Record-keeping
 - Site inspections
 - Other monitoring
 - Training
 - Community Feedback
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- Continuous improvement, i.e. review and update on a regular basis

Sample fugitive dust site inspection form

Date:

Time:

Inspector Name:

Inspector Signature:

Areas Inspected (identify road segments/storage piles/activity)

Paved Roadways

	PR1	PR2	PR3	PR4	PR5	PR6	PR7	PR8	PR9	PR10
Inspected										

Unpaved Roadways

	UR1	UR2	UR3	UR4	UR5	UR6	UR7	UR8	UR9	UR10
Inspected										

Storage Piles

	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10
Inspected										

Loading /Unloading

	LU1	LU2	LU3	LU4	LU5	LU6	LU7	LU8	LU9	LU10
Inspected										

Weather Conditions

Wind Direction:

Wind Speed (m/s): less than 5 m/s, 5 to 10 m/s, greater than 10 m/s

Temperature (degrees C):

Precipitation: None, Rain, Snow



Sample fugitive dust site inspection form

Inspection Criteria	Observations	Follow-up Action	Responsibility	Status
Is visible dust observed at the area inspected?				
Is the area well maintained (i.e. good housekeeping, area cleaned up?)				
Are proper control measures used (e.g. vacuum sweeper, water truck, etc.)?				
Are vehicles moving below speed limit (if applicable)?				
Are appropriate haul sizes maintained on haul vehicles (if applicable)?				
Are the haul vehicles regularly cleaned before leaving the site?				
Are storage pile heights maintained below the level of windbreak (if applicable)?				
Are low drop heights maintained for material handling activity?				

Examples where the Technical Bulletin may be used...

- ESDMs (fugitive dust sources)
- Air emissions EASR requirements (fugitive dust BMPPs)
- Developing requirements in technical standards (fugitive dust BMPs)

Example: Addressing contaminants in fugitive dust - ESDM

- Fugitive particulate from on-site roadways, storage piles and other fugitive sources must be included in the assessment of compliance with ministry POI Limits including SPM unless the facility:
 - develops and implements a BMP plan (includes in Appendix to ESDM report); and
 - retains a copy of the BMP plan and implementation records on-site for inspection by the ministry; and,
 - demonstrates that each contaminant that has a health-based ministry POI Limit (or that may cause health effects) has been adequately assessed in the ESDM report and any issues have been addressed.
- If the dust emissions contain significant quantities of contaminants with health-based ministry POI limits, then these sources would not be considered negligible and should also be included in the modelling.
- Sectors listed in ESDM Procedure for use of fugitive dust BMP
 - Table 7-2 “Sectors where metal content within fugitive particulate must be considered” (i.e. metal ore mining, primary metal manufacturing, coating-engraving-heat treating, and fabricated metal product manufacturing)
 - Table 7-3 “Sectors where metals in fugitive particulate is generally not anticipated” (e.g. quarries, sawmills, cement...)

Example: Air emissions environmental activity and sector registry (EASR)

- Air emissions EASR [O.Reg.1/17](#)
- Section 29 requirement: Best management practices plan (BMPP) [if facility has any source of fugitive dust]
- 29(2) parag 8 “must set out the following with respect to each significant source of fugitive dust at the facility, including each source of fugitive dust that would be a significant source of fugitive dust if it were not controlled:
 - i. Possible **causes** of the fugitive dust.
 - ii. **Measures and procedures implemented** at the facility to prevent or minimize the discharge of fugitive dust into the air.
 - iii. **Inspection, maintenance and monitoring** procedures to ensure the adoption and continued implementation of measures and procedures to prevent or minimize the discharge of fugitive dust into the air.
 - iv. Identification of **additional measures and procedures** that should be implemented at the facility to prevent or minimize the discharge of fugitive dust into the air, if any...”

Example: Proposed Mining Sites – Industry Standard

- [EBR# 013-0196](#) (comment period ended June 19, 2017).
- Proposed requirements based on fugitive dust BMPs. Incorporated good practices that many mining sites are doing and makes consistent rules for all registrants.

Ministry technical bulletins, and guidance documents on the Local Air Quality Regulation

- available on [Ontario's Rules on Air Quality and Pollution](#) webpage.