

Office Memorandum

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TO: Interested Parties

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SUBJECT: **Air Quality Policy on Paved Roads and Fugitive Particulate Matter**

The Minnesota Pollution Control Agency (PCA) has updated its policy on air dispersion modeling for particulate matter (PM) and paved road fugitive dust. The policy will maintain adequate control of paved road fugitive PM at industrial facilities while allocating air modeling and permitting resources to other projects or issues of environmental and PCA priority, thereby improving overall environmental and program outcomes. The policy applies to new facilities and physical expansions at existing facilities.

Policy

Under specific circumstances, the PCA will no longer require the inclusion of paved road fugitive PM emissions in air quality modeling analyses that support air quality permitting or environmental review. The policy covers modeling for both particulate matter less than 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}). For comparisons with National or Minnesota Ambient Air Quality Standards, those circumstances include instances where a modeling analysis demonstrates that:

- predicted ambient impacts (modeled + background concentrations) equal less than 95% of the applicable PM₁₀ and PM_{2.5} standards, and the facility air permit contains an appropriate and enforceable fugitive dust control plan or comparable permit conditions; or
- predicted ambient impacts (modeled + background concentrations) equal less than 60% of the applicable PM₁₀ and 80% of the applicable PM_{2.5} standard. Requirements in Minn. R. 7011.150 to prevent avoidable PM from becoming airborne apply.

For comparisons with federal Prevention of Significant Deterioration increments, those circumstances include instances where a modeling analysis demonstrates that:

- predicted ambient impacts (net modeled concentrations) equal less than 75% of the applicable PM₁₀ standard and 80% of the applicable PM_{2.5} standard, and the facility air permit contains an appropriate and enforceable fugitive dust control plan or comparable permit conditions; or
- predicted ambient impacts (net modeled concentrations) equal less than 35% of the applicable PM₁₀ and 40% of the applicable PM_{2.5} standard. Requirements in Minn. R. 7011.150 to prevent avoidable PM from becoming airborne apply.

Exceptions will be determined on a case-by-case basis by PCA Risk Managers. Potential reasons for exceptions include public complaints about fugitive dust or indications that the policy will lead to significant increases in PM emissions from non-fugitive sources. There may also be instances where modeling for Prevention of Significant Deterioration increments may deviate from the policy. This policy does not affect quantification of fugitive PM for the purposes of permit or other rule applicability. Air quality modeling supporting permitting in maintenance areas or development of State Implementation Plans is not affected.

To implement this policy, a small team with representation from the air modeling and air permitting groups drafted a general paved road fugitive PM control plan that can be attached to or incorporated into an air permit. The plan is based on known best practices and existing requirements to keep paved roads clear of silt, spilled commodities, and other debris through regular visual inspections and maintenance. Air modeling staff will update PCA guidance documents as appropriate to reflect the policy.

Paved Road Fugitive Dust Permit Conditions

AQ REQUIREMENTS GUIDE

Paved Road Fugitive Dust – Applicability, Requirements

Explanation of Tiers

Guidance on use of Tier Help Files

Screen Guidance:

The Tier approach and help file language is approved for permits that completed modeling with predicted ambient impacts (modeled + background concentrations), without the inclusion of paved road fugitive emissions, in the following ranges: 1) NAAQS predicted ambient impacts between 60-95% of the PM_{10} standard and 80-95% of the $PM_{2.5}$ standard, or 2) PSD increment predicted ambient impacts between 35-75% of the PM_{10} standard and 40-80% of the $PM_{2.5}$ standard.

If the facility's predicted ambient impacts for NAAQS or PSD increment are greater than the above ranges for $PM_{2.5}$ and PM_{10} , the facility needs to remodel and include a paved road fugitive emissions source group in air quality modeling analyses which will likely result in facility-specific permit conditions.

If the facility's predicted ambient impacts are less the above ranges for $PM_{2.5}$ and PM_{10} , there is no need to require paved road fugitive permit conditions. Exceptions will be determined on a case-by-case basis by Risk Managers. Potential reasons for exceptions include public complaints about fugitive dust or indications that the policy will lead to significant increases in PM emissions from non-fugitive sources.

Enter these requirements at the total facility level of the permit under the Source-Specific Requirements header.

Overview of Tiers

Screen Guidance:

- Tier 1. Low likelihood of paved road fugitive dust. For example, the facility's paved surface traffic is limited to employee parking and minimal third party truck traffic, it is unlikely that traffic would track dirt from a nearby unpaved surface to the paved surfaces, and it is unlikely that dust would be generated from products hauled by trucks. As needed corrective actions.
- Tier 2. Moderate likelihood of paved road fugitive dust. For example, the facility's paved surface traffic is limited to employee parking and moderate third party truck traffic (approx. less than 100 vehicles per day), it is possible that traffic would track dirt from a nearby unpaved surface to the paved surfaces, or it is possible that dust could be generated from products hauled by trucks with open beds. Weekly inspections, corrective actions, and recordkeeping.

- Tier 3. High likelihood of paved road fugitive dust. For example, the facility's paved surface traffic has high levels of third party truck traffic (approx. more than 100 vehicles per day), it is likely that traffic would track dirt from a nearby unpaved surface to the paved surfaces, or it is likely that dust could be generated from products hauled by trucks with open beds. Daily inspections, water/chemical application, speed limit, and recordkeeping.
- Tier 4. Case-by-case requirements to supplement Tier 3 requirements as needed.

TIER 1	
Citations	
	Minn. R. 7011.0150; Minn. R. 7007.0800, subp. 2
Requirements	
	The facility shall take reasonable measure to prevent particulate matter from becoming airborne.
	The Permittee shall minimize or eliminate fugitive emissions from all paved surfaces. If fugitive emissions from paved surfaces are observed, the Permittee shall record the date that fugitive dust was observed, what corrective actions were taken, when the corrective actions were taken, and whether the corrective actions eliminated the fugitive dust.

TIER 2	
Citations	
	Minn. R. 7011.0150; Minn. R. 7007.0800, subp. 2
Requirements	
	The facility shall take reasonable measure to prevent particulate matter from becoming airborne.
	During each week of operation the Permittee shall visually inspect all paved surfaces to minimize or eliminate fugitive emissions. The facility shall maintain a record of this inspection that includes the date of the inspection, whether fugitive dust was observed, what corrective actions were taken, when the corrective actions were taken, and whether the corrective actions eliminated the fugitive dust.

TIER 3	
Citations	
	Minn. R. 7011.0150; Minn. R. 7007.0800, subp. 2
Requirements	
	The facility shall take reasonable measure to prevent particulate matter from becoming airborne.
	On each day of operation, the Permittee shall visually inspect all paved surfaces to minimize or eliminate fugitive emissions. The facility shall maintain records of this inspection that include the date of the inspection, whether fugitive dust was observed, what corrective actions were taken, when the corrective actions were taken, and whether the corrective actions eliminated the fugitive dust.
	Anytime fugitive emissions are observed on facility roadways, the Permittee shall immediately eliminate fugitive emissions by sweeping those road segments and/or apply water or a chemical dust suppressant.
	The Permittee shall implement and enforce a facility-wide speed limit of 15 miles per hour. The Permittee must post the speed limit in a highly visible location near the facility entrance.

TIER 4	
Citations	
	Minn. R. 7011.0150; Minn. R. 7007.0800, subp. 2
Requirements	
	The Permittee shall sweep all paved surfaces on each day of operation. The Permittee shall keep a record of the dates of operation and dates when sweeping occurred.
	The Permittee shall wash paved surfaces on each day of operation using a high pressure, low volume water spray. The Permittee shall keep records of the date and duration of each water application.
	The Permittee shall keep a daily record of the trucks entering the facility.
	The Permittee shall install and operate a truck wash. Each time a truck enters the facility it must remove excess particulates from its exterior in the truck wash. The Permittee shall keep a daily record of the trucks entering the facility and a daily record of the trucks using the wash.
	During winter months, the Permittee shall apply only salt, not sand to paved surfaces.
	All trucks with open beds that enter the facility shall have covers to minimize dust generation from the products hauled. The Permittee shall not allow trucks without covers to make any product deliveries or pick-ups.
	The Permittee shall implement and enforce a facility-wide speed limit of 10 miles per hour. The Permittee must post the speed limit in a highly visible location near the facility entrance.
	The Permittee shall implement and enforce a facility-wide speed limit of 5 miles per hour. The Permittee must post the speed limit in a highly visible location near the facility entrance.