



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

**JUL 21 2016**

REPLY TO THE ATTENTION OF

Ms. Kristin Hart  
Chief  
Permits and Stationary Source Modeling Section  
Bureau of Air Management  
Wisconsin Department of Natural Resources  
PO Box 7921  
Madison, Wisconsin 53707-7921

Dear Ms. Hart:

The U.S. Environmental Protection Agency has the following comments on the Wisconsin Department of Natural Resources' (WDNR) combined draft initial Title V permit and new source review permit for Wisconsin Proppants, permit number #627026620-P01 and 15-MHR-161. In order to ensure that the project meets federal Clean Air Act (CAA) requirements, that the permit will provide necessary information so that the basis for the permit decision is transparent and readily accessible to the public, and that the permit record provides adequate support for the decision, EPA recommends that the following points be addressed:

- 1) 40 CFR 70.5(c)(3) requires the source to provide emission-related information as part of the permit application, including all emissions of pollutants for which the source is major and emissions of all regulated air pollutants. Pursuant to 40 CFR 70.2, "regulated air pollutant" includes "Any pollutant for which a national ambient air quality standard (NAAQS) has been promulgated" and thus includes particulate matter of less than 2.5 micrometers (PM<sub>2.5</sub>). Further, 40 CFR 70.3(d) requires that fugitive emissions from a Part 70 source must "be included in the permit application and Part 70 permit in the same way as stack emissions, regardless of whether the source category in question is included in the list of sources contained in the definition of major source." WDNR's February 2016 report entitled "Air Quality Review of Industrial PM<sub>2.5</sub> from Stationary Sources in Wisconsin" (henceforth referred to as the TSD), states that mechanical units are not likely to "cause or contribute to a violation of the NAAQS". A determination that an emission unit does not cause or contribute to a violation of the NAAQS does not necessarily equate to no emissions from the unit. As frequently seen in ambient air impact analyses, an emission unit can emit significant quantities of a pollutant and still not cause, by itself, a violation of the NAAQS. WDNR's statement that mechanical units are unlikely to negligible does not address the explicit Part 70 requirements to quantify emissions rates. As WDNR's TSD relies upon an analysis of regional ambient air monitoring and provides little analysis of PM<sub>2.5</sub> emissions at the source level, EPA does not believe that the TSD provides sufficient evidence to substantiate the claim that there are zero or negligible emissions of PM<sub>2.5</sub> from mechanical sources. Similarly, while the study cited

by WDNR<sup>1</sup> may indicate that activities associated with sand mining are unlikely to have significant effects on the ambient concentration of particulate matter of less than 4 micrometers, the study does not provide direct evidence that there are zero or negligible emissions of PM<sub>2.5</sub>. Compliance with Title V requires WDNR to quantify the PM<sub>2.5</sub> emissions from the mechanical sources at the facility. WDNR's failure to consider PM<sub>2.5</sub> emissions from mechanical sources, including fugitive emissions, is not allowable under Title V of the CAA and the permit record is currently deficient. EPA urges WDNR to include PM<sub>2.5</sub> emissions calculations for the mechanical units at Wisconsin Proppants using the best available information.<sup>2</sup>

- 2) WDNR has proposed to remove the PM<sub>2.5</sub> emissions limits for the fluidized bed dryer, dry plant building, storage tanks 1-4 and truck loadout, truck unloading and railcar loading station (S60) which were introduced in permit 14-MHR-116. These limits were adopted because when emissions were limited to those emission rates modeling showed that the NAAQS were not violated. This seems to imply that modeling using the maximum theoretical emission rate for each emissions unit would result in modeled a violation of the NAAQS. WDNR justifies the decision to remove the PM<sub>2.5</sub> limits by stating that emission are negligible and that mechanical sources such as dryer, dry plant building, storage tanks and loadout operations do not emit PM<sub>2.5</sub>. As discussed in Comment 1 above, and evidenced by studies reviewed by EPA in Attachment A, evidence suggests that mechanical emissions units such as those at Wisconsin Proppants do emit PM<sub>2.5</sub>. In the case of Wisconsin Proppants, site specific data lead WDNR to conclude that if limits were not imposed on these emission units then the facility could cause or contribute to a violation of the NAAQS. While states generally have discretion in the implementation of minor permitting programs, a state's the new source review program is required to prevent the construction of sources that would interfere with attainment or maintenance of a NAAQS or violate the control strategy in nonattainment areas<sup>3</sup> and this requirement is codified in Wisconsin Statute 285.63(1)(b). Since site-specific information such as stack heights, topography, meteorological data and emission rates can impact local air quality, EPA believes that it is not appropriate to invalidate the conclusions reached by the initial site-specific ambient air quality analysis by relying on WDNR's TSD or unsubstantiated statements that the units do not emit PM<sub>2.5</sub>. EPA believes that prior to removing the emission limits, WDNR must provide additional, site-specific justification explaining why the removal of the PM<sub>2.5</sub> limits would not cause or contribute to a violation of the NAAQS.
- 3) It appears that WDNR recently approved a Type A Registration Permit (#627036630-ROPA) for a rail loading facility owned by Wisconsin Proppants located about 2 miles from the Hixton mine and plant. This rail loading facility will be used to unload dry sand

---

<sup>1</sup> Richards, J and Todd Brozell. (2015) "*Assessment of Community Exposure to Ambient Respirable Crystalline Silica near Frac Sand Processing Facilities.*" *Atmosphere* 6:960-982

<sup>2</sup> AP-42 is only one resource, WDNR may use other available resources to determine a more reliable emission factor, including site-specific emission factors, other scientific literature, or emission testing from similar sources must be used to determine the PM<sub>2.5</sub> emissions. Even if the studies used to develop AP-42 are excluded, several scientific studies give EPA reason to believe that mechanical sources such as haul roads do emit some level PM<sub>2.5</sub>. EPA has provided several of these studies in Attachment A.

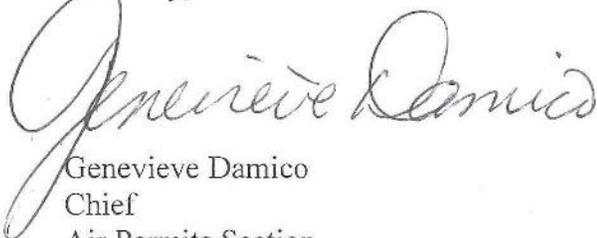
<sup>3</sup> See 40 CFR 51.160(b)(2)

shipped from the Wisconsin Proppants processing facility via truck and transfer the sand to enclosed storage silos, conveyors and rail cars. The Preliminary Determination Document for the Wisconsin Proppants processing facility makes no reference to the proposed rail loading facility. Please explain why the two facilities are not a single source under the Prevention of Significant Deterioration (PSD) program or Title V.

- 4) Page 38 of the Preliminary Determination document indicates that after the proposed modification, the facility will emit 360.2 ton per year of non-fugitive particulate matter (PM), which exceeds the 250 year major source applicability threshold. However, Page 39 indicates that the facility will remain a minor source for PSD purposes. It appears that either the statement that the facility is a minor source, or the emission estimates for PM is incorrect. Please verify the calculations and provide a justification as to whether the source is now major for PSD. Additionally, please provide an explanation as to whether the project is subject to PSD.
- 5) Permit condition I.ZZZ.2 contains requirements for the facility's fugitive dust plan. However, it is unclear if the facility is required to submit updates to the plan to reflect the changes authorized by the construction permit. Please consider clarifying what elements whether updates to the plan are required and if these need to be submitted to WDNR.
- 6) Draft permit condition I.ZZZ.2.c.(3) on page 40 states that "the permittee shall submit any revisions to the fugitive dust plan to the department within 30 days prior to the revisions taking effect". EPA suggests revising the condition to read, "to the department 30 days prior" to clarify the timing of the submittal.
- 7) Draft permit conditions I.B-E.3.a.(1), I.F.3.a.(1) and I.H.-J.3.a.(1) appear to contain a requirement from 40 CFR 60.672, however this is not included in the citation to origin and authority. If appropriate please add the citation to the federal New Source Performance Standards to the origin and authority of the condition.
- 8) Draft permit condition I.A.3.(b)(2) on page 9 references condition (5), however condition (5) does not exist. Please revise the citation as appropriate.

We look forward to working with you to address all of our comments. If you have any further questions, please feel free to contact Andrea Morgan, of my staff, at (312) 353-6058.

Sincerely,



Genevieve Damico  
Chief  
Air Permits Section

## Attachment A

Chang-Tang, C. (2004). "Assessment of Influential Range and Characteristics of Fugitive Dust in Limestone Extraction Processes." *Journal of the Air & Waste Management Association* 54(2): 141-148.  
<http://search.proquest.com/docview/214368290?accountid=171501>

Chang, C.-T., Y.-M. Chang, W.-Y. Lin and M.-C. Wu (2010). "Fugitive Dust Emission Source Profiles and Assessment of Selected Control Strategies for Particulate Matter at Gravel Processing Sites in Taiwan." *Journal of the Air & Waste Management Association* 60(10): 1262-1268. <http://search.proquest.com/docview/757916719?accountid=171501>

Fern, M. and K. Sjoberg (2015). "Concentrations and emission factors for PM<sub>2.5</sub> and PM<sub>10</sub> from road traffic in Sweden." *Atmospheric Environment* 119: 211-219. DOI: <http://dx.doi.org/10.1016/j.atmosenv.2015.08.037>

Ketzel, M.; Omstedt, G.; Johansson, C.; Düring, I.; Pohjola, M.; Oettl, D.; Gidhagenb, L.; Wählina, P.; Lohmeyere, A.; Haakanaf, M.; Berkowicz, R. (2007) "Estimation and validation of PM<sub>2.5</sub>/PM<sub>10</sub> exhaust and non-exhaust emission factors for practical street pollution modelling." *Atmos. Environ.* 2007, 41, 9370-9385.

Kundu, Shuvashish, and Elizabeth. A. Stone. "Composition and Sources of Fine Particulate Matter across Urban and Rural Sites in the Midwestern United States." *Environmental science. Processes & impacts* 16.6 (2014): 1360-1370. *PMC*. Web. 20 Apr. 2016.

Piras, L., V. Dentoni, G. Massacci and I. S. Lowndes (2014). "Dust dispersion from haul roads in complex terrain: the case of a mineral reclamation site located in Sardinia (Italy)." *International Journal of Mining Reclamation and Environment* 28(5): 323-341. DOI: <http://dx.doi.org/10.1080/17480930.2014.884269>

Solomon, P. A., P. K. Hopke, J. Froines and R. Scheffe (2008). "Key Scientific Findings and Policy- and Health-Relevant Insights from the US Environmental Protection Agency's Particulate Matter Supersites Program and Related Studies: An Integration and Synthesis of Results." *Journal of the Air & Waste Management Association* 58(13): S3-S92. DOI: <http://dx.doi.org/10.3155/1047-3289.58.13.s-3>

Yuen, W., K. Du, S. Koloutsou-Vakakis, M. J. Rood, B. J. Kim, M. R. Kemme, R. A. Hashmonay and C. Meister (2015). "Fugitive Particulate Matter Emissions to the Atmosphere from Tracked and Wheeled Vehicles in a Desert Region by Hybrid-Optical Remote Sensing." *Aerosol and Air Quality Research* 15(4): 1613-1626. DOI: <http://dx.doi.org/10.4209/aaqr.2014.12.0310>