

Thompson, Matthew A - DNR

From: Roth, John A - DNR
Sent: Monday, April 08, 2019 2:46 PM
To: Thompson, Matthew A - DNR
Subject: RE: Waste Burning Dispersion Model help requested

Matt, I concur with all of their input assumptions. They will be obtaining the distribution of ground-level air concentrations (in micrograms per cubic meter) of particulate matter emitted from the stack, and this should directly correlate to the pattern of deposition on the ground. The rate chosen for a single stack will not affect the pattern of ground-level concentrations. If they were to model with 10 g/s from the same stack, the pattern of concentrations would look the same, but each value would be ten times higher, than if 1 g/s is used. If there were two not identical stacks, then the relative emission rate from each would make a difference to the spatial distribution of ground-level concentration.

There was no mention of the receptor grid in the document (the points where concentrations will be calculated). If they are using a grid of points, please have them extend the grid +/- 5 kilometers from the stack. The spacing of the points can grow larger the further from the stack at their discretion. I doubt there will be high concentrations on the north side of Rib Mountain or on the terrain to the northwest, but for a single stack AERMOD analysis there is no CPU-issues with many receptors.

Please let me know if you have any questions or would like additional information. The TRC modeler (David Fox) is welcome to contact me directly if there are other model issues.

John

From: Thompson, Matthew A - DNR
Sent: Monday, April 8, 2019 1:42 PM
To: Roth, John A - DNR <John.Roth@wisconsin.gov>
Subject: RE: Waste Burning Dispersion Model help requested

John, I received proposed input parameters on behalf of TRC for the Wauleco project in Wausau Friday and am passing them along for your thoughts. In your experience would these inputs yield accurate particle distribution information? I am also curious about TRC's proposal to use a 1 gram/sec unit emission rate. Obviously some emission rate is necessary, I am just unsure what an appropriate rate would be for this application.

Any thoughts or suggestions are welcome, thanks again for taking a look.

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Matt Thompson
Office: 715-839-3750
MatthewA.Thompson@wisconsin.gov

From: Roth, John A - DNR
Sent: Tuesday, April 02, 2019 11:12 AM
To: Thompson, Matthew A - DNR <MatthewA.Thompson@wisconsin.gov>
Subject: Re: Waste Burning Dispersion Model help requested

Matt, thank you for the opportunity to review the air dispersion/deposition model that will be prepared by TRC. TRC provides assistance (modeling) to many firms obtaining air permits and I am well acquainted with their modeler. The model referenced (AERMOD) is the current USEPA regulatory dispersion model and WDNR has extensive experience with the model and provides modeling guidance: <https://dnr.wi.gov/topic/AirPermits/Modeling.html>

{I believe the meteorological data cited in the document is the WDNR processed data available on the web site.}

While the Air Program does not address deposition as a regulatory benchmark, I have experience with air deposition (dry particle settling, wet removal, and gaseous uptake) from other projects (multi-pathway risk and mine permits, such as the NMC/Crandon Mine).

John

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John A. Roth

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From: Thompson, Matthew A - DNR
Sent: Tuesday, April 2, 2019 10:51 AM
To: Roth, John A - DNR
Subject: Waste Burning Dispersion Model help requested

John,

I got your name from Susan Lindem as someone who could help me review an air dispersion model being proposed to address soil contamination at a former wood treating site. Your voicemail said you were out today but available via email so I thought I'd send some information your way to take a look at.

Given the RR program's limited ability to review air models my hope is that you can aid in reviewing information TRC submits on behalf of their client and, if needed, offer comment to TRC. At this point I've received little detail about the model they would like to develop, please see section 5 of the SIWP (pdf pages 11-14), but expect additional information later this week. I've attached a portion of a site investigation work plan, SIWP_Aerial_deposition, proposed by TRC for the response action site 'Wauleco' in Wausau that provides background on the site as well as how they would like to approach air model development. A site map depicting the site in 1974 is also attached.

Are you able to step in and provide assistance with this or would you recommend another individual in the air program for me to contact? Feel free to give a call when you can. I am in all week save for Thursday.

Thanks,
Matt

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Matt Thompson

Hydrogeologist – Remediation and Redevelopment

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