

Attachment 1

MNCC's comments regarding the NWRA April 14, 2014 letter April 21, 2014

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The term "contact water" is confusing in reference to the liquids draining from the compost waste in the tipping/active areas of the facility. The term "Leachate" has been in common use and in rule for over three decades. Therefore the language in the proposed rules should match that used elsewhere for consistency. The term contact water should be reserved for that area of the site that is used for managing inert materials or stormwater runoff from operations areas.

MNCC's rebuttal: The Term Contact water came from the transfer station rules, within the solid waste rules. So is consistent with the SW rules. It also an established term in the composting industry.

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The proposed rules are not based on scientific evidence but rather are based on an assumption that the compost material will not harm water resources at these facilities. That is, that the leachate from these facilities is relatively clean.

MNCC's rebuttal: Landfill rules are not based on scientific evidence, they are based on the staff "best professional" opinion back in the 1980's when the rules were written.

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The rules were proposed in spite of the data from a study commissioned by the MPCA that showed that the compost leachate was not benign. The study data (Exhibit 94; as addressed in my testimony) indicated that the SSOM leachate was far worse and potentially more harmful than was assumed.

MNCC Rebuttal: ÷AET report shows this as a false claim.

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Based on the MPCA's internal emails (Exhibit 95 Page 160 of Exhibits), it is clear that the MPCA's own technical staff- representing the actual expertise in managing solid wastes-were ignored in development of the proposed rule. For example, MPCA technical staff unanimously agreed that an impervious surface be required for these facilities.

MNCC Rebuttal: ÷MPCA technical staff was present only the data from Grant 3P Phase II (G3PII) and was not presented the data from the previous two grants nor the data from G3PI, so their recommendation was biased based on the selective information given to them. The AET and EOR reports show that the gravel pad specifications met by the MPCA's own storm water manual and general permit for permeability standards are protective of ground water.

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The need for the relaxed rules was therefore not based on scientific data but an arbitrary and unfounded assumption that the SSOM leachate was benign and that SSOM compost operations should have more relaxed standards. The resulting proposed rules are not reasonable because they fail to account for the

potential harm to the environment and fail to provide the protection of resources which is the primary duty of MPCA (see for example MN Statutes 115.03, MN Rules Chapter 7060 and 7035.2565 Sup.1).

MNCC Rebuttal: The MPCA technical staff was referencing invalidated data when making the recombination for impervious pad requirements. The MPCA has itself discredited this information)

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The arguments presented by various supporters of the relaxed rules regarding these facilities sought to discount the Carver SSOM leachate test data based on the commenters' esoteric technical arguments. None of the evidence provided at the hearing by these commenters addresses the simple facts: The constituents in the leachate are present, they are present at 3 high concentrations relative to MSW leachate, and for some chemical parameters are higher concentrations of potential contaminants than are present in MSW leachate.

MNCC Rebuttal: The data sample size is so small that it is not statistically valid. In addition, that data collected is not representative actual contact water from an SSOM compost facility. Finally the data ~~the~~ evaluated is "raw" data that has not undergone the appropriate QA/QC and some of the values they refer to have qualifications in the lab reports stating they are not reliable data and the lab does not stand behind them. Also, no one has denied that the constituents are present, however, we do dispute that they are present in higher concentrations than landfill leachate and the linear regression that the AET report does "answer" that part of the questions.

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The arguments made by several commenters at the contested case hearing that were used to diminish the significance of the 2013 Carver County study results were inherently contradictory. The commenters' rationale was that the Carver County test results used a large amount of water and a total liquids collection system. These supporters of the proposed relaxed rule argued that the results of the study represent artificially inflated concentrations due to the amount of water used and the collection of liquids. However, the sample collection methodology used in the study actually diluted the samples and likely resulted in lower concentrations than what actually exist. This means that the results of the Carver County study actually represent a potentially lower bias, and may be significantly worse than MSW leachate.

MNCC Rebuttal: There have been repeated comments regarding the flaws in the "Liner Study". Please see comments in the Carver letter and the MPCA's April 14, 2014 letter regarding these flaws.

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Many of the metallic parameters in the SSOM leachate are not attenuated in the subsurface and will likely overwhelm soil attenuation over time. Therefore the MPCA's statement in the SONAR that the five foot water table separation addresses the Chapter 115.03 non-degradation statute is false. The MPCA's technical staff (Exhibit 95, p162) state that "this approach was rejected out of hand based on staff experience at demolition landfill sites." Demolition landfills are not required to have a liner in most cases because it has been believed that the leachate from these facilities is relatively benign relative to MSW leachate; however groundwater monitoring at these facilities has indicated this to not be the case, hence the recommendation that SSOM waste facilities be required to be underlain by an impervious surface.

MNCC Rebuttal: Based on the AET and EOR evaluation that the "hard-packed, all-weather drivable surface meets the definition of an impermeable surface as define by the MPCA General permit

Authorization to Discharge Stormwater Associated with Construction Activities under the NPDES and State Disposal System Permit No: MN R10001. As a result are not comparable to Demolition landfills that are not required to have an impermeable liner. We contend that we meet the impermeable surface requirement.

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As indicated in Exhibit 94 (Attachment 2), the Carver Compost study data shows that boron, arsenic and cadmium are present in high concentrations in SSOM leachate data. Boron is a potential groundwater contaminant that would not be attenuated by soil because it is highly soluble in groundwater. That is, higher concentrations of boron will appear in ground water because soil conditions will have little effect on preventing boron from reaching the ground water table. Arsenic and cadmium are heavy metals and are groundwater contaminants that can be extremely mobile under the chemically reducing conditions expected under active compost piles. In addition, the high Chemical Oxygen Demand found in the leachate would result in chemically reducing conditions that would mobilize metals from the leachate, in addition to native subsurface materials, causing a secondary contaminant plume in groundwater that would not be protected by a five foot separation. This is a commonly observed and well known feature observed at unlined landfills.

MNCC Rebuttal: Much has been said about the data gathered from the G3PII. Little has been said regarding the results from the first two grants. The data, or lack there-of, from the first two grants strongly indicates that when windrows are built at actual moisture, porosity and heights, contact water does not filter through the windrow and into either the hard packed drivable pad or the sub soils. In addition, it has been a long standing claim, based on actual observation, that any r moisture falling on the windrow and seeping in is used in the compost process and comes out as evaporative moisture not as contact water from the bottom of the windrow (see Professor Halbach's explanation of the composting process attached to the MNCC's April 14th letter).

So based on the data from the first two grants and the industry's long standing observation, it is not likely that any of the situations described above would occur. In addition, for the metals discussed above, arsenic, cadmium and, the linear regression shows that they is attached to TSS particles and are not dependent on attenuation by the onsite soils. Rather the hard packed drivable surface and on site soils would act as a filter in much the same way as a piece of cheese cloth filters out solids. When the TSS is filtered out the remaining dissolved metal concentrations are well below the drinking water standards. Please see the graphs in the AET report.

To the chemical oxygen demand argument, the contact water would need to penetrate the hard packed drivable surface for the situation describe above to occur. The AET and EOR reports show that is an impermeable service and the EOR report goes further to say that is it unlikely that the

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The samples collected to characterize leachate are required by the MPCA to measure metals on a total basis rather than dissolved metals. Dissolved metals are more commonly used for groundwater testing. This is because the leachate is reactive and is not in chemical equilibrium with the solid phase and precipitates, while groundwater is generally assumed to be in chemical equilibrium with the solid phase substrate. American Engineering Testing's (AET) testimony by Robert Kaiser (P106-108 of 3-24-2014 hearing testimony) suggested that the Carver County leachate data was not representative of contact

water leachate because it removed sediment resulting in results based on total metals data rather than dissolved concentrations. NW&RA would like to clarify that Mr. Kaiser did not purport to have any experience with landfill 4 leachate and therefore his testimony although valid for groundwater comparisons is not relevant to a comparison of the strength of SSOM leachate to MSW leachate because leachate comparisons require total metals data. This is because in leachate, the sediments are part of total chemistry including precipitates. Removing the sediments would result in sample bias. In addition, landfills that send their leachate to publicly-owned treatment works need to have total metals data to understand the entire mass of contaminants being received

MNCC Rebuttal: There are a variety of assumptions occurring in this statement. First, as described by Professor Halbach the composting process is a dehydrating process and the results from the first two Carver grants support that. In addition, the AET and EOR reports show that the hard-packed drivable surface is an impermeable surface and as a result little, if any contact water reaches the sub-soils. Therefore, any contact water would be surface water run-off and be treated by the standard methods prescribed by the Agency. Those treatment methods are designed to remove the TSS from surface water and as a result remove any metal and nutrients attached to those particles.

Second, the AET reports discussing of drinking water standards and the regression analysis was geared toward the Agency continued insistence on comparing the contact water from an SSOM compost facility to drinking water standards. The MNCC believes that the AET report shows the Agency's comparison of unfiltered sample results to standards developed from filtered samples is inappropriate.

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Facilities that manage MSW leachate are highly regulated and require extensive site investigation, liner systems and groundwater monitoring. Given the nature of the SSOM leachate in comparison to MSW leachate as provided in these comments, more protective measures than what are provided in the Proposed Permanent Rules for Compost facilities, are warranted.

MNCC Rebuttal: Most of this has been addressed in previous comments. However, the Solid Waste Coordinating Board included in their April 14th comments several table showing the variety of materials delivered to a landfill versus a SSOM compost facility. The difference is substantial, greatly reducing the risk posed by SSOM compost facilities.

The environmental protections proposed by the MNCC, 5 feet to the water table, 9 soil types and, at minimum, 1 foot of hard packet gravel pad meeting MNDOT specifications as described in the SONAR is protective of the environment. Further surface water treatment systems would meet all of the NPDES, non-degradation and Total Maximum Daily Load standard for the area they are site in.

Conclusion

The remaining point in the NWRA letter have either been addressed above or in the MNCC's April 21 cover letter.

Attachment 2

MNCC Comments to the MPCA April 14, 2014 Response Letter

April 21, 2014

General Comment B: The MNCC agrees with the Agency that “ ...each round of research from the Carver County, has its own challenges and limitations.” However, based on the 4 years of experience in participating in the development of this rule, the MNCC disputes the MPCA’s claim that they under took a fair and unbiased evaluation of all of the data obtain from the first two grants and Phase I of the current grant. Members of the Board of Directors have sat in many, many meetings where Agency technical staff have repeatedly discounted the data from those grants because of the bias the one staff member to the use of lysimeter to collect sub surface water samples. This despite the fact that the first hydrologist assigned to the project approved the use of that type of lysimeter and those types of lysimeters are used around the country by researchers for this very purpose. Somehow this one staff person knows more than all of those researchers put together. This continues to be a mystery to many of us.

General Comment C and #21: Review of the raw data from the Carver/Arboretum Phase II was the basis for removing the three soil types, loam, silty loam and silt. The MNCC strongly disagrees with their removal and has submitted evidence in its previous comments, see the April 14, 2014 comments that these soils have been removed in error and should be reinstated. In short, these three soil types may in fact be every bit as impervious as the 6 soils remaining in the proposed rule. As explained in Mr. Denn’s letter, these soil types have characteristics that make them better suited to compaction that would prohibit downward percolation of contact water.

At the very least, the Agency should reinstate those soils with a requirement that a certain permeability standard be met. The MNCC would suggest the standard given in the AET report of the 3×10^{-4} (0.43 in/hr) standard, which is considered by the Agency’s own storm water general Permit No: MN R10001 to be impermeable and protective of ground water.

MPCA Comment 6: The MNCC has reviewed the proposed changes to 7035.0300, Subp. 20a Contact water and believes that the changes to not address the concerns raised in our comment letter of February 25, 2013. The MNCC here by request that those changes to 7035.0300, Subp. 20a Contact water definition.

MPCA comment 7: The MNCC has reviewed the proposed changes to 7035.0300, Subp. 93b Residual definition and believes that the changes to not address the concerns raised in our comment letter of February 25, 2013. The MNCC here by request that those changes to 7035.0300, Subp. 93b Residual definition.

MPCA comment 9: The MNCC has reviewed the proposed changes to 7035.0300, Subp. 105a Source-separated organic materials definition and believes that the changes do not address the concerns raised in our comment letter of February 25, 2013. Further, the MPCA comments state that “...the proposed SSOM rule specifically excludes these materials to ensure they are properly managed.” It is unclear why this is true.

Every permittee must submit an operations plan which includes how materials delivered to the facility will be managed. The operations plan is approved by the MPCA technical staff. It is hard to imagine why the MPCA staff would approve an operations plan that would not properly manage the materials coming into the facility. If the MPCA believes that special conditions for managing a specific material is needed they have the power to specify those conditions now and under the proposed rule changes.

Further, the MPCA's response states that 7001.0150, Subp 2, allows special conditions to be placed in the permit. The rule section sites hazardous waste facilities, landfills and the requirement that hazardous waste facilities meet federal regulations. This section of regulations does not have anything to do with compost facilities and in particular source separated organic materials compost facilities, where hazardous waste is a prohibited material and would be rejected if it were delivered to the facility.

Imposing 7001.0150, Subp. 2, is an unnecessary burden when the MPCA can impose special conditions on the management of materials through the approval process of a facilities operation plan. The MNCC [here](#) by request the elimination of this requirement and request that the previously requested changes be made to 7035.0300, Subp. 105a Source-separated organic materials definition.

MPCA Comment 11: The MNCC would like to thank the MPCA for reinstating the back-yard definition and exemption. However, the requested changes to "Backyard compost site" definition were not made and, as stated in our February 25, 2014 letter, our testimony at the March 24, 2014 hearing and our submission on April 14, 2014, the MNCC believes strongly that these changes need to be made. They are common sense changes and reflect what is actually happening in residential backyard compost sites.

MPCA comment 12: The MNCC has reviewed the proposed changes to 7035.0300, Subp. 99a Small compost sites and does not believe the proposed changes address the comments in the February 25th, comment letter or the testimony at the March 24th hearing. The MNCC requested that the requirements in 7035.2525, Subp. L, be incorporated into the definition, 7035.0300 Subp 99a.

In our letter and testimony, the MNCC stated that this is a common sense approach to assisting this group of unregulated composters to comply with the wishes of the state. It is difficult for those facilities that are used to regulations to bounce from one section of the solid waste rule to another to determine what regulations apply to them. The Small compost sites are not regulated and are not used to the "regulatory speak" that is used by the solid waste regulators. By consolidating all regulatory requirements into the definition of a Small compost site, it makes it easy for those facilities and the local units of government regulating those facilities to comply with all the requirements the Agency wishes them to comply with.

From meetings that members of the MNCC Board of Directors have attended on the rule issues, the MPCA staff is resistant to incorporating the MNCC's changes to the Small compost sites definition because they are concerned that future changes to the rule that might impact the small compost site would be missed. It should be pointed out that the SW rule is nearly 30-years old and only a few sections have been updated in that time. In addition, the compost rule itself was updated 18-years ago. The risk of a future update to the SW rule that impacts the definition of small compost sites is extremely low and, in the view of the MNCC, not a valid reason for not making the requested changes.

In addition, our original comments requested that the limit of 80 cubic yards be increased to 100 cubic yards, excluding carbon materials and finished compost. The MNCC does not believe that the MPCA's

change increasing the volume to 120 cubic yards but including all feed stocks and finished compost will meet the needs of this group of composters.

The MNCC respectfully request that its original language recommendations be adopted.

MPCA Comment 22: Alternate Liner Systems: The MNCC agrees with the comments of Commissioner Reinhart regarding the lack of discretion given the MPCA Commissioner to allow for alternative soil types and pad systems. The section of the rule cited by staff as giving the Commissioner this discretion is 7035.2836, subp. 9, Item B, subitem 9, unit C. This Part of the rule is in the section that defines the types of liner systems that would be allowed if the 5' and 6 soil types could not be met and is 100% focused on a liner system with a 10^{-7} permeability. The MNCC does not believe this section addresses options for alternative soil types, and therefore does not address the concerns raised by the stakeholders.

It is possible that 7035.2836, subp. 9, Item B, subitem 8, unit (a) and (b) could address these concerns regarding alternative soil types, but as currently worded this section only addresses only "alternative separation distances" to the water table. It can only be assumed that an alternative separation distance would also be predicated on soil types meeting some unknown impermeability standard. However, given the contentiousness surrounding this part of the rule, there is little trust that MPCA permitting staff would recommend alternative soil conditions without that specific language in both the rule and SONAR. Possible rule language might be:

"an owner or operator may use alternative methods that are approved by the commissioner as equivalent if the owner or operator can demonstrate that the alternative method if the 5 foot separation distance from the water table and provides a soil permeability profile that is similar to the 9 soil types allow in 7035.2836, subp. 9, Item B, subitem 8. Soil permeability characterization would need to demonstrated to be substantially equivalent by standard site investigation methods.

Further, the SONAR language for this section would need to be updated to allow alternative soil units if they met the minimum standard of the soils specified in the rule.

MPCA Comment #24: Throughout the document the Agency refers to the "decades of experience" their staff has, ostensibly with MSW compost facilities. However, that is untrue. With the exception of 2 staff on the Compost Rules team who do have experience with composting and prior to the retirement of Ginny Black in September 2013 who had been on the US Composting Councils Board of Directors for 15 year and 12 years of direct experience in SSOM composting, the remaining members of the Agency's Compost Rules team have almost no experience with either MSW composting or SSOM composting. In fact one of the engineers and the hydrologist assigned to the Compost Rules team had never been on a compost facility until they were assigned to the project. Their experience has solely been in permitting landfills, transfer stations and recycling facilities. All of which operate significantly differently than a compost facility.