



April 14, 2014

Minnesota Composting Council
Ginny Black, Chair
11410 49th Place North
Plymouth, MN 55442

The Honorable Barbara L. Neilson
Office of Administrative Hearings
600 North Robert Street
P. O. Box 64620
St. Paul, MN 55164

Dear Honorable Neilson:

As I indicated at the end of my testimony on March 24, 2014, on behalf of the Minnesota Composting Council (MNCC) I am submitting the suggested language changes I presented at the hearing for the proposed regulations on Backyard Compost, Small Compost sites, and the Contact Water and Residuals definition. You will find the exact changes language in Attachment 1.

The MNCC believes strongly the additional information presented in this letter, the Carver County letter, the Solid Waste Coordinating Boards letter and the letter from Mr. Denn that the Agency has been arbitrary in deleting the nine (9) soil types. As a result, the MNCC requests the Agency revise the current proposed compost rule to require a 5' separation from the water table, a minimum of 9 soil types and a hard packed, all-weather drivable pad that meets the permeability of 3×10^{-4} cm/s. The remainder of this letter and the attachments will support this request.

The National Waste and Recycling Association Testimony

The MNCC listened with dismay at the testimony presented by the National Waste and Recycling Association (NWRA) spokesperson, Mr. Jim Aiken from Barr Engineering. As a result of this misleading testimony the Minnesota Composting Council hired American Engineering Testing, Inc. (AET) to evaluate the testimony and the data presented. Their full report can be found in Attachment 2.

In the testimony given by Mr. Aiken for the NWRA, he stated that he was given the contact water test data from Grant 3 Phase II to evaluate. When asked if he knew the source of the data he stated that he did not know the source of that data other than that it was "given" to him and came from the Arboretum Demonstration Organics Compost Site.

The source of the data was the "Source Separated Compost Study Preliminary Summary and Data" document prepared by MPCA staff and posted on the MPCA's website in the week of February 24, 2014. This raw data was posted over the objection of members of the Project Team assigned to collect and evaluate the data from the research project. The Project Team consists of: Project Manager Marcus Zbinden - Carver County, Sarah Braman - Carver County, Tom Halbach - Technical Advisor UofM Solis & Climate, Carl Rosen - UofM Soils & Climate, Anne Ludvik - Specialized Environmental Technologies, Rob Friend-Specialized Environmental Technologies and Mark Zumwinkle - Sustainable Ag. Specialist from Minnesota Department of Agriculture. The Project Team submitted their objections and concerns to the MPCA, yet the MPCA posted those findings knowing the data had not undergone the proper quality assurance and quality control (QA/QC), that there were qualifications from the laboratory invalidating some of the data and that the tables contained numerical errors. As outlined in the Carver County letter, on numerous occasions, the Project Team requested corrections to the raw data posted on the MPCA's website, but was told that it was not a priority. To our knowledge, that report has not been corrected and still contains inaccurate, unqualified information.

Mr. Aiken clearly did not have this information and assumed that the appropriate QA/QC had been performed on the data prior to his receiving it. Mr. Aiken evaluated raw, unqualified data that contained a number of errors and used it in his testimony. The Project Team was concerned that because the data had not been properly vetted prior to its release the information would be used inappropriately. That is precisely what happened.

The verbal and written testimony by the NWRA gave a description of the composting process that described the process as a wet process and implied that routinely there was a hydrolic head under the windrow that was forced into the sub soils. Nothing could be farther from reality. It is important to understand that, as explained by Professor Halbach's letter (Attachment 3), the composting process is a dehydrating process.

Mr. Aiken described three sources of water that contributes to the development of the mythical hydrolic head. They were: 1) precipitation falling on the windrow, 2) the release of water in the composting process, and 3) the "wringing" out of water due to the weight of the materials. This description was graphically portrayed through the use of a picture that showed a flat topped windrow with no all-weather, drivable pad.

Attachment 4 is a picture of what actual happens when precipitation come in contact with a windrow. Precipitation that comes in contact with the windrow it actually sheets off of the windrow, rolling down the sides to the compost pad where it becomes part of the storm water. That "contact water" is directed to a treatment pond.

In addition, Attachment 4 shows that air is actually drawn into the windrow, and wicks moisture up through the pile and out the top and sides. The reason for this is that when the microbes breakdown the organic materials, chemical bonds are broken, releasing heat. That heat accumulates within the windrow, reaching temperatures well above the required 131 degrees Fahrenheit required to meet the

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Process to Reduce Pathogens (PFRP). The result of this is that convective currents are set up within the windrow drawing air and moisture through the windrow and exiting, mainly, out of the top, but sides as well. This is the dehydrating process that Professor Halbach describes in his letter and is also described in Professor Tom Richard's paper (Exhibit L of the Carver letter). Both of the Professors support this with academic research, while the NWRA give only their opinion with no supporting documentation.

MPCA-Carver County Source-separated Organic Materials Studies

As stated above, the NWRA used raw data from only Phase II of the grant currently in process. Carver County staff contacted principles in the NWRA and offered to present to them the data from all three grants. They refused that offer. The only conclusion that can be drawn is that data did not support the NWRA's conclusion and therefore the NWRA was not interested in reviewing or including that data in their "statistical" evaluation.

In an effort to not repeat information, I will direct you to the comments from Carver county during the 60-day comment period which included the final reports for Grants 1 and 2, and the comments of the Solid Waste Coordinating Board on pages X-X, the comments in the Carver County letter on pages x-x submitted in this 20-day comment period and the summary of all three grants in Attachment 5 of this letter.

From these documents and letters, it is clear that the Agency chose to ignore this larger body of data. Stakeholders have been told that the reason for this is that current Agency project staff believes the data from the first 2 grants is invalid because they were not involved in the development of the data collection methods and as a result there are "fatal" flaws in the data. Yet, previous MPCA project involved with those grants did approve the data collection methods used in the first two grants and Professor Halbach, with more than 25-years of conducting research on composting methods, was involved in the design of all the projects. Agency staff, with less than 2-years of experience in researching composting issues, has discounted Professor Halbach's methods in favor of their own, and consequently better, research methods. This shows an unbelievable arrogance and is beyond the pale with respect to applying the scientific method.

American Engineering Testing Report

Attachment 2 of this letter is the report from American Engineering and Testing (AET) evaluating the Agency's continued insistence on comparing contact water to drinking water standards (pages 1-4), the permeability of a hard packed all weather surface (page 4-5), the impacts of removing the three soil types, loam, silty loam and silt (page 5), and the testimony of Mr. Aiken on behalf of the NWRA (pages 5 – 9).

Contact Water compared to Drinking Water Standards

The MNCC believe that the Agency is being arbitrary by comparing contact water to drinking water standards. As a result the MNCC contracted with AET evaluates the Agency's continued insistence on comparing the contact water from the Arboretum site to drinking water standards. The AET report reveals that the unfiltered contact water sample from the Arboretum site are being compared to drinking water standard derived from filtered ground water. For full details please see Attachment 2 pages 1-4.

Additionally, the MNCC has contacted other state regulators to see what standards they use to evaluate storm water from compost facilities. All of them use the drinking water standard. However, there is one significant difference. Minnesota "in-house" practice is to use 25 percent of the drinking water value to evaluate whether a

particular constituent does or does not meet standards, so for Arsenic, the value is 10 micrograms/liter, the exceedance value would be 2.5 micrograms/liter, not 10 micrograms/liter as it would be in other state.

The MNCC also spoke with regulators from the state of California's Water Board (CAWB). In that conversation we learned that the CAWB used drinking water standards, but also applies an attenuation factor for the on-sites soils. They acknowledge that soils do have the ability to treat pollutants through the microbial activities in the soil and well as the EC pH and other factors known to soils scientist.

When you put all of these factors together, comparing unfiltered contact water samples to filtered drinking water standards, the very stringent standards, and the lack of any acknowledgement of the soils ability to attenuate pollutants, it is evident that Minnesota regulators have set a series of factors that make it almost impossible for a facility to meet at all times. Considering the severe conservatism in the MN approach, it is amazing that there are not more value that exceed these very conservative standards.

Finally, the issue of filter verses unfiltered sample comparison is reminiscent of the effort in the early 1990's when the then Office of Waste Management was involved with a nationwide effort with the US Composting Council to evaluate soils test methods. It was widely acknowledged that while the test methods to test soils was the best test methods to use in evaluating finished compost, they were not strictly appropriate. As a result, a panel of industry professionals and scientist under took an effort to evaluate those test methods which resulted in a new set of test methods to specifically test finished compost. Those test methods, "Test Methods to Evaluate Compost and Composting", have become "the" test methods to use in the US, Europe, Japan and China to name a few countries. The MNCC believes that a similar effort must be undertaken to clarify the test methods needed to test contact/storm water from compost facilities.

Compost Pad Requirement

Further, it was stated in the NWRA presentation that there are no pad requirements for sites that meet the requirements of the operating surface being 5' above the water table and meeting the 6 soil types. This is not correct. The proposed rule language specifically states that an all-weather drivable surface, or pad, is required and the Statement of Need and Reasonableness (SONAR), on pages 26-27, gives a specific example of what the Agency believes would meet the all-weather, drivable conditions. The AET report, on pages 4-5, evaluates the example give in the SONAR and presents exactly what those requirements would mean in terms of permeability of an compacted all-weather, drivable pad meeting the SONAR requirements.

The AET study is further backed up by report developed by EOR for Carver County regarding the infiltration characteristics of compacted gravel pad. Instead of repeating that information please see Exhibit J in the Carver County April 14, 2014 letter.

Soil types

Perhaps the most disconcerting actions taken by the Agency was the removal the three soils types loam, silty loam and silt in the current proposed compost rule. The Agency staff has stated that those changes were made based on the data collected from Phase II of Grant 3 (G3PII). The Agency is aware that there the Grantee has outline many inaccuracies in that data and a number of flaws in the sampling procedure, yet, instead of waiting

to thoroughly vet that data for accuracy and examine the seriousness of the flaws went forward in eliminating the 3 most common soils in Minnesota based on flawed information.

In addition, to providing information on the inappropriate comparison of unfiltered contact water samples from to drinking water drinking water standards based on filtered samples, the AET report also provides information that the MPCA's own General NPDES/SDS Construction Stormwater Permit considered a gravel road a surface that "...retards the entry of water into the soil...". The MPCA's storm water manual considers gravel roads meeting the same standards as those outline in the SONAR as protective of ground water. This points out serious inconsistency between storm water rules and the solid waste rules with respect to protecting ground water. There is nothing in the SONAR that explains the reason for this double standard.

The MNCC believes that, the information presented in the Solid Waste Coordinating Board, on pages 1-4, the Carver County letter and the letter by Mr. Dale Denn in the comment period, casts serious doubts on the validity of the G3PII data and therefore, the elimination of the loam, silty loam and silt soils.

The Agency recent action in removing the three soil type, resulted in the MNCC asking AET to evaluate the impacts of that change. Their evaluation, on page 5 of Attachment 2, confirms testimony at the hearing that these three soil types are the most common soil types in Minnesota. With the removal of these soil types the land available for the construction of a compost facility with an all-weather, drivable surface shrinks from 68 percent to 7 percent of the state. The MNCC believes that the information present in the AET report shows that the ground water would be protected if these three soils are reinstated in the proposed rule and that without those soil types the proposed rule imposes an unreasonable burden.

AET Evaluation of the NWRA Testimony

In addition to the evaluation of the comparison of the contact water to drinking water standards, the permeability of the all-weather drivable pad requirement and the evaluation of the available land with/without the loam, silty loam and silt soils, the MNCC asked AET to evaluate the testimony given by the NWRA. Again, rather than paraphrase that evaluation, please see Attachment 2, pages 5 - 9.

Cost impacts

Finally, the MNCC testified regarding the cost of the current rule requirements and the economic relief that the proposed rule would provide to compost facilities that co-composting yard waste and source separated organic materials. Rather than reiterate that testimony, I would refer you to page 50 of the Statement of Need and Reasonableness.

Finish Compost Testing Requirements

Finally, the MNCC presented testimony regarding the current requirement that the finished compost be tested for PCB. The MNCC believes that those requirements do not meet the reasonable test for the following reason:

- The inclusion of the requirement to test PCB's in the current rule, was the resulted of a false positives in a test method used to test soils. It is a rather long and technical explanation (of which the Agency is aware), but suffice it to say that the QA/QC of the method was reviewed by a panel of scientists from across the US and changes were made to the method to more accurately test finished compost. In the only instance in which PCB were actually found in finished compost the compost facility was accepting

an industrial waste that it was not permitted to take. An enforcement action was taken and the situation was corrected. Further, the current proposed rule would not allow the acceptance of that type of materials without approval by the commissioner and the materials would need to be tested prior to permitting and delivery to a compost facility. These safe guards minimize any potential threat of PCB being delivered to a compost facility and, consequently being redistributed in the environment in finished compost.

This test is expensive and the MNCC believes unnecessary. It should be delete from the testing requirements.

Conclusions

The MNCC makes the following recommendations:

- The MNCC believes that the information submitted in this letter provides sufficient support for revising the current proposed language to reinstate the nine (9) soil types and establish a permeability standard for the compacted all-weather, drivable pad of 3×10^{-4} cm/s or 0.43 inches/hour. The MNCC members accept the 5 foot distance from the water table and the need for storm water standard that protect the waters of the state.
- The MNCC also believes that the phrase “all-weather drivable surface” create confusion regarding it protection of ground water. As shown in the AET report, a “surface” meeting the requirements in the SONAR on page 27 is considered an impermeable surface that does protect the ground water resources of the state. Therefore, the MNCC believe the language should be changed to “compact all-weather, drivable pad”. This more clearly describes the “drivable” required by the rule.
- The MPCA should encourage the Compost Council’s Research and Education foundation to undertake and effort similar to the TMECC evaluation and recommend appropriate test methods for testing contact/storm water from compost sites.
- The MPCA should eliminate the testing requirements for PCB’s.
- In addition to the above request, the MNCC request the Agency adopt the language changes in Attachment 1. These are common sense changes that allow resident to continue composting in their backyard and allow composters managing small amounts of SSOM to do so without incurring the high cost of constructing a facility and permitting costs.

Finally, I have included the resume of all of those who have contributed to the information presented in this letter. They are Attachments 6-11.

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The MNCC would like to thank your Honor and Agency staff for their hard work and dedication. While disagreements still remain regarding some of the concepts and language in the proposed rule, the MNCC recognizes that we share the common goal of recycling materials for beneficial reuse. The MNCC would like to continue to work with the Agency to bring this rule making process to a successful conclusion.

Sincerely,

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Attachments

- Attachment 1: MNCC's Suggested Language Changes to the rule
- Attachment 2: American Engineering Testing, Inc.
- Attachment 3: Professor Halbach's Letter on the Composting Process
- Attachment 4: Figure of the Compost Process
- Attachment 5: Grants 1, 2 and 3 Summary
- Attachment 6-11: Principals Bios