

AGENDA & NOTES

LANDFILL & SOLID WASTE FEES ADVISORY COMMITTEE

Wednesday June 21, 2023
Madison and via conference call/Zoom

Committee Members Present:

☒ Tim Curry ☒ Tyler Field ☐ Bryant Esch ☒ Doug Genthe ☒ Aaron Janusz ☒ Jeff Maxted
☒ John Oswald ☒ Gregory Parins ☒ Betsy Powers ☒ Robin Schmidt ☒ Pat Stevens
☒ Jim Tinjum ☒ Mark Torresani ☒ John Welch

Jessica Palmer, Lisa Ziehlke, Dan Michiels, Andrea Lorenz, Richard Stadelman, Lisa Ziehlke,

DNR Staff Present:

☒ Brad Wolbert ☒ Kate Strom Hiorns ☒ Joe Lourigan ☒ Ann Bekta ☒ Tyler Sullivan
☒ Tess Brester ☐ Malena Grimm ☒ Duncan Moss ☒ Bart Sponseller ☐ list other DNR staff:
Tony Peterson, Alicia Zewicki, Jim Zellmer, Colin Maus, Casey Krausensky

Number of Public Attendees:

9:30 a.m.	Meeting Start
Welcome and introductions 15 minutes	Jim Zellmer, Environmental Management Division Administrator DNR and Committee Member introductions (first time in person) Notes: Message from Jim emphasizing the following with code changes (Note, Jim used to be a regional engineer for the Waste and Materials Management program): • Importance of keeping rules updated (industry standards, avoid needing exemptions, staying up to date with emerging contaminants) • Protecting public and environmental health is important and consider cost effective ways to do so. • DNR must assess cost impacts and will need economic input from industry. • Due to statutory rulemaking limitations, may not get to every issue with this code revision, but can hopefully address in future rule revisions. • Want input and for everyone to stay engaged. Thank you for your time commitment. This process and transparency through the process makes better rules at end. • Jim will stay updated through Brad and Kate.
DNR updates 45 minutes	Overview of work done since April meeting Overview of draft edits to NR 500 and 504 SharePoint site reminder, options for feedback Introductions

	Work Done Since April Meeting/other Administrative Items: • Spreadsheet of draft changes, reminder to access group SharePoint for documents shared during meeting. • Talk about timeline, will discuss alt liner today, proposed chapters to discuss during upcoming meetings August (chapters 506 & 520), October (chapters 507 & 508- start 512 if there is time). • New table with updates/changes. Looks like old copy – has new tab for each ‘round’ of updates. New changes since old updates in ‘current’ tab. Will keep this format for rest of rule process. Current items are mainly 500 & 504, but other (smaller) items too. Notes: Highlights from draft changes spreadsheet: • 504(2)(6)(b) – 10 feet separation to groundwater, added “unless otherwise approved by dept in writing” (row 14/15 of spreadsheet). Allows underdrain without needing exemption. • 504.09(2)(f) – 50-foot separation between berms and property boundary. Added exception for screening berms from this requirement. • 504.09(2)(l) – new section – 50-foot separation between limits of disturbance and wetlands (unless otherwise approved). Wetland permit may allow other disturbance. Also created definition of ‘limits of disturbance’. • 504.08(l) – add reduction of greenhouse gases and minimize and mitigate their effect. These items are not finalized; please provide feedback on these items in the spreadsheet. Open comments on current proposed changes: General: • How other DNR program code is accounted for in WA code (example - wetland setback item ch. NR 151). • ‘Unless otherwise approved by department’ includes approval by other DNR programs, including storm water. • Ch. 504 – granular drainage blanket and gas well stone standards. Can we go to Department of Transportation (DOT) specifications? Makes more readily available, easier to meet specifications. • DNR should evaluate using ‘slightly’ and ‘maybe’ if used for clarity. • DNR should include what would need to be provided for items that have ‘unless otherwise approved by the department’ in them. • Rules need to be written to be fair to all facilities. • DNR should try to limit items duplicated between feasibility and plan of operation reports.
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Initial site report opinion and feasibility determination language:

- Current ISR opinions include ‘has potential’, ‘has limited potential’, ‘has no potential’,
- ISR opinion is important for applicants for future planning/funding.
- Current opinion language can be misleading to the public (has limited potential) and has been an issue for some sites.
- Will keep opinion but attempt to reword to be clearer to the public.
- Examples proposed: has potential if constraints are met, has potential should the following be overcome.

Organic Stability Plans (OSP)

- Will likely not be addressed in this round of revisions.
- Goals for OSP based on landfill gas generations and is hard to quantify. How effective is the plan? What are the goals?
- History of OSP – OSP was part of 1,200-foot leachate collection line rule changes. Concerns came up that if we increase size of landfills, they will create additional methane and emissions and have an overall negative impact. Wanted something in place to address this. Had small external working group to address OSP. OSP was result of that 2-year small group discussion. Way to get at problem and put notice back on landfills to say you accept more material over long term, how are you going to address it? How will you account for potential larger impacts? Experimental, how it would work out. 15 years later, is there a better way to address this issue? Can we modify that aspect of plan of operation to minimize impacts and shorten time to stability for the landfill?
- Can do small focused group after rule making if we can’t address at this time.

Prescriptive and Performance Based Requirements

- Need to make code concrete, easy to admin and consistent. Promotes equitable treatment by DNR across all sites.
- Consider consistency over time.
- Consider room for technological advancement.
- Need to discuss if EPA will approve performance-based rules.
- Prescriptive rules are easy to ‘check the boxes’ for completeness.
- Do the DNR engineers have the ability to evaluate performance-based proposals? Time considerations for staff for plan review? Additional fees?
- Review times are set in statute and cannot be changed.
- If approvals are challenged, DNR is the expert for the state. Easier for state to justify design based on code than interpretation.
- Want rules to be written to minimize using the exemption process in the future.
- DNR evaluates for long time horizon: 50-100+ years down the road – not short term.
- Idea: Have prescriptive and performance together. Meet either option.

Action Items:

- Participants were asked to share examples from other states of performance-based standards and how those standards are met.

	BREAK
Discussion on alternative landfill liner options 1 hour 30 minutes with break time	Existing Wisconsin landfill liner regulations Minnesota, Michigan, other state regulations Overview of DNR draft ideas for code changes – goal is to provide another option at least as protective of soil and groundwater as the current liner system Committee members encouraged to share draft ideas for alternative landfill liner options in code - How does the proposal address the issues noted at the April meeting (economic and environmental impacts of acquiring and hauling clay for a liner)? - Members asked to review questions in the economic impact analysis form: what change would result from the proposal? Notes: DNR Thoughts to Consider with Alternative Liner Conversation: • Looking at having a standard option and an alternative option, not just 1 standard design (but could propose multiple alternatives). • Alternative(s) need to be as protective as current design (groundwater). • No linear relationship between thickness of clay and protectiveness, other factors can influence design effectiveness. ○ Other things we can do to limit leachate time on liner. • Need to codify this, not rely on exemptions, if possible. • PFAS as an emerging contaminant with likely very low groundwater standards. Doesn't take much to get through liner to cause standard exceedances. Cannot approve something that would cause groundwater exceedances at point of standards application. PFAS may not be last emerging contaminant, need to design system for future emerging contaminants. • Looked through Golder report for liner design comparison. Wisconsin is not an extreme state for liner design, in middle somewhere. Open Discussion on Alternative Liners: History of current liner design: • 4 feet clay, geomembrane, geotextile, drainage blanket/leachate collection system • Soil is very forgiving (vs geomembrane) during construction (human element). • Had 5 feet in past, went to 4 feet. • Thickness of clay for attenuation and constructed purposes. • First foot of clay put down thicker to avoid mixing in lower layers. Bottom foot of clay not most competent due to practical limitations in field. • Freeze-thaw cycle, top foot of clay subject to freeze-thaw on sideslopes. • Had a study on freeze-thaw effects of clay. After 1 winter clay starts to show increased hydraulic conductivity.

	• Middle 2 feet of clay is most competent in liner system and provides redundancy. • What does an alt liner mean? Several options: Prepared subbase with 3 feet of clay over top? Three feet of clay with GCL? Double composite liner system? Should we have subbase prep? Leak location system problematic with GCL. • Impacts associated with clay hauling/nuisance to neighbors are short term. • Groundwater impacts are long term. • Alternative design DNR is currently considering: Prepared subbase (compacted, 1-2 feet, 10^{-6} cm/s), 3 feet of clay, GCL, membrane, leachate system. Feedback requested. Emerging Contaminants: • Landfills do not generate PFAS, they are ‘dealing’ with them as they are the final resting place for products that have PFAS. The DNR does not have documented knowledge of how the current design of landfill liners is performing in terms of containing PFAS. • Prof. Jim Tinjum: Active research at Madison on PFAS is showing standard landfill liner design is very protective against breakthrough of PFAS – led by Craig Benson. Comfortable that PFAS will not be transported through current design. Still evolving, research is not seeing transport of PFAS as an issue. ‘at least as protective’ effective/diffusive transport, life cycle emissions, soil/groundwater, air impacts. “As least as protective”-- to what contaminant class, PFAS or volatile organic compounds (VOCs), metals, needs to be defined. How much PFAS is in landfills is a question. UW has an ongoing study – will have data soon (names of sites that provided PFAS data are not available). Limited data on PFAS in leachate causing limited conclusions that can be drawn. • Research being done for alternative liner for transport of PFAS though geosynthetic clay liners (GCL) systems ongoing. Evaluating alt liner systems. Further PFAS sampling limited, litigation issues, we don’t know what we don’t know with limited data. Mark Torresani Presentation: • White paper from Tinjum on SharePoint. See slides 17+ for presentation. • Considerations: human and environmental health, long-term suitability, economics. • Liner performance, not just the components of the liner. 2 types of leakage, advective flow (water coming out of hole in plastic bag) liquid though liner. Diffusive flow (molecular) odor from bag of onions in a sealed Ziplock bag. • Leachate head on liner with liner performance. Can’t look at other states that do not have similar climate (precipitation). • Separation to compliance point – where is groundwater located? • Mass flux for leachate on liner (limit liquid in the landfill). • What impacts leachate performance? Geomembranes. Construction methods have gotten better.
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	• Volume of leakage vs initial head – increase in leakage with increase in head of liner. 1 foot of leachate head has little to no change in discharge rate. • White paper looked at a few different options – thicker areas of leachate – like the sump (leachate head). • Diffusion is a significant mode of contaminant transport in soil liners. • Secondary impacts – haul trucks, number of trucks. • Need changes in leachate system with alternative liner (example – leachate pipe diameter increase). Group discussion on alternative liner: • Dynamics of design considerations and performance standards. Each site has differences from a groundwater impacts, soil borrows. Should play role in alt liner design. Prescriptive alt liner may benefit only limited number of sites. • Even playing field is hard. So many different alternatives may create an uneven playing field. Hard to compare options. • DNR thinking long term - what happens in 50-100+ years? • Could include multiple alt designs in rule. • Will equivalency be based on federal or Wisconsin standards? What is as ‘protective as’? • Final proposed design could require modeling • DNR will consider practical construction experience of landfill liners when considering alternatives. • DNR needs to be able to defend the design of all liners in court if challenged. Does the DNR have the staff to do this? • Consider creating a ‘roadmap’ with ‘guardrails’ for performance-based liner design. • DNR will need to set a ‘point of compliance’. • May need to increase standards for leachate collection system in addition to alternative liner design. (Example – when the RD&D rule passed, modified design elements were required to implement RD&D). • Evaluation of short term and long-term impacts. • DNR will need to justify the board order when rules are proposed. Action Items: • Golder report has steps other states taking. What have group member organizations proposed in other states and what justification was used? • Bring forward guardrails from other states and share with DNR for examples for viable path forward on performance-based approach.
Public participation 15 minutes	Open time for comments from any attendees • No comments.
Plans for 6/22/23 – 8/19/23 10 minutes	Next focus areas for DNR drafting and to discuss in August: - NR 506 Landfill Operational Criteria - NR 520 Solid Waste Management Fees and Financial Responsibility Requirements

	Committee topic suggestions for future meetings [NR 507 Environmental Monitoring and NR 508 Responses if GW Standard Attained and NR 512 Feasibility Reports (if time) in October]
Next Meeting Date	August 19, 2023 Virtual meeting - Zoom
12:30 p.m.	Meeting adjourn