



# NR 538 Technical Advisory Committee Meeting – Final Review

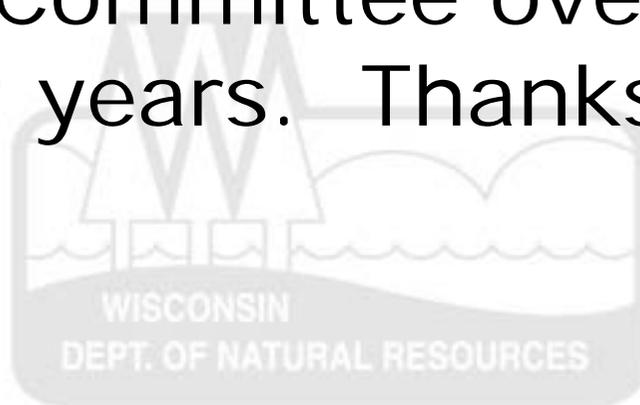
DNR Fitchburg Office, Glaciers Edge Room  
September 18th, 2018

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Bureau of Waste and Materials Management



# THANK YOU!

We sincerely appreciate all the time and effort put forth by members of the Technical Advisory Committee over the past 2 years. Thanks!



# Approval Process

1. Prepare a Scope Statement identifying revision goals and needs
2. Submit Scope Statement to Governor
3. Submit Scope to Natural Resources Board; approved in October, 2015
4. By statute, assemble Technical Advisory Committee (TAC); March, 2016
5. Assemble TAC input, draft rule language
6. Prepare Economic Impact Analysis; release for public comment



# Approval Process

7. Schedule public hearing(s); open draft rule for comment; respond to comments
8. Draft final version for Natural Resource Board (yellow sheet and green sheet); internal reviews
9. Submit Board Order to the NRB for adoption
10. Governor approval
11. Legislative review
12. Rule is published and effective



# Statutory Authority - 1995 Wisconsin Act 27

- s. 289.05, Stats.    **Solid waste management standards.**
- (4) The department shall promulgate, by rule, standards for the reuse of foundry sand and other high-volume industrial waste, including high-volume industrial waste that qualifies for an exemption from regulation under s. 289.43(8). **The department shall design the rules under this subsection to allow and encourage, to the maximum extent possible consistent with the protection of public health and the environment, the beneficial reuse of high-volume industrial waste, in order to preserve resources, conserve energy and reduce or eliminate the need to dispose of high-volume industrial waste in landfills.** In developing rules under this subsection, the department shall review methods of reusing high-volume industrial waste that are approved by other states and incorporate those methods to the extent that the department determines is advisable. In developing rules under this subsection, the department shall also consider the analysis and methodology used under 40 CFR 503.13 (*sewage sludge pollutant limits*) in determining the impacts on groundwater from various methods of reusing high-volume industrial wastes.



# Revision Goals

- Explore ways to simplify the rules for better compliance and enforcement
- Re-evaluate (update) Appendix I standards
- Incorporate new uses, update old ones to minimize use of case-specific approvals
- Address old fill sites that are being redeveloped:
  - Create excavation review process
  - Collect enough information to prevent fill sites from becoming remedial actions
- Meet public needs for information



# Public Needs

- As expressed through public information requests about the Program:
  - Who is participating in the beneficial use program?
  - How much are they using of each material?
  - Where is it going/how is it being used?
  - Provide proof that the uses are legitimate and environmentally safe
  - Make regulations easier to understand; category designations were confusing



# How Were the Goals Met?

- Eliminates categories and switches to eligible uses
- Updates and revises Appendix I standards
- Uniform characterization schedules
- Reorganizes beneficial uses
- Updates geotechnical fill requirements
- More detailed reporting and tracking
- Updates and creates more uniform storage requirements



# How Were the Goals Met?

- Simplifies property owner notification
- Adds a section addressing excavation of existing geotechnical fill
- Maintains self-implementation features of existing code



# Eliminating categories

- Started by narrowing number of categories:
  - Category 1 was very seldom used, but often used a “de minimus” standard
  - Category 3 was also seldom used and confusing (only a few metals)
  - Majority of byproducts were either Category 2 (sands and slags) or Category 4 (ashes)
  - One option was eliminating categories to simplify determination of eligible uses



# Eliminating categories

- Eliminating categories and assigning eligible uses instead has advantages:
  - Clarifies what uses are acceptable; no need to explain or understand category designations
  - Reduces focus on numeric standards; limits mis-use or misunderstanding of standards
  - Better aligns with other States beneficial use regulations
  - Improves Initial Certification process by providing generator with evidence that their byproduct has DNR approval for certain uses; also that they are participants in BU program



# Appendix I Revisions

- Updates standards that were based on revised NR 140 water quality standards
- Updates required testing parameters based on EPA studies (COCs) and previous DNR sampling data (i.e. removes PAH's from coal ash sampling)
- Evaluated testing methodologies and retained ASTM leach and totals
- Adds separate standards for FGD gypsum used in ag. (NRCS-333)



# Appendix I Revisions

- Bulk (totals) analysis standards:
  - Requested a Dept. of Health Services review of all beneficial uses for inhalation/ingestion risks
  - Eliminated most uses as little or no exposure risk, except unbonded surface course and winter road abrasives
  - Developed model for exposure risk from unbonded surface course use
  - Those calculated exposure limits are now in Appendix I; all previous standards were removed since they were not based on use-specific exposures (soil clean-up standards, NR 720)



# Appendix I Revisions

- Water leach analysis standards:
  - Based on the NR 140 groundwater quality Enforcement Standards (ES)
  - Applied a 5x multiplier based on:
    - Use restrictions in residential areas
    - 3-5 foot separation to water table
    - 100-foot setback from residences or wells
    - 2-foot soil or impervious surface covering for all geotechnical fills (reduces infiltration)
    - Results of UW-Madison groundwater dilution modelling



# Appendix I Revisions

**The Appendix I standards are intended only as a screening tool, not as a predictive model.**

- This is necessary since there are no site-specific evaluations
- Below the standards, the beneficial use can be implemented without any additional DNR approvals; above them, additional evaluation or conditions may be needed
- Based on submitted data, most existing uses will be below the standards



# Appendix I Revisions

- Iron and steel slags have been removed
  - 2017 Act 285 conditionally exempts iron and steel slag from the definition of solid waste
  - Slags can, therefore, no longer be regulated under ch. NR 538 Wis. Adm. Code



# Uniform Recharacterization

- All byproducts will be recharacterized once every 3 years (unless using less than 1000 cubic yds. per year over reporting period)
- Current recharacterization varies (1-5 years) with category and volumes
  - Challenging for generators to maintain or determine compliance esp. for generators that have several byproducts in different categories
  - Challenging for DNR staff to determine compliance



# Reorganized Uses NR 538.10

- Without categories, it was easier to group the uses in like categories:
  - Key was eliminating differences between treatment of “confined” and “unconfined” fill
  - Current rule assumes byproduct will be under an impervious surface indefinitely (landfills)
  - Revised rule acknowledges that all geotechnical fill projects have a life span; at some point, the property will be redeveloped potentially exposing byproduct (~30-40 years)



## New Uses s. NR 538.10

- Adds new uses to reduce the need for case-specific approvals:
  - Use of geotechnical fill in livestock operations; engineered structures currently need case-specific approvals
  - FGD gypsum use as soil amendment; NRCS 333 guidance and ATCP 40
  - Lime kiln byproducts for use as agricultural liming agents; NR 204.07 and ATCP 41
  - Mine reclamation; NR 135 standards





# Deleted Uses NR 538.10

- Fully encapsulated highway embankments; if material needs landfill engineering features to be protective, it isn't appropriate for use
- Utility trench backfill removed at Wis. DOT request; added back in by WMCA for municipal use; DOT project exclusion language?
- Bridge abutment backfill; removed at request of Wis. DOT
- Decorative stone; only one generator and applied under a case-specific approval
- Same for blasting grit; foundry slag is no longer regulated under NR 538



# Geotechnical Fill

- Unconfined and confined – redefined!
  - One standard based on fact that confining layers will not last indefinitely; all sites will be redeveloped
  - Unconfined now only applied to exposed uses (unbonded surface course and road abrasives)
  - Confined applies to both impervious surfaces and soil covers; contaminants are not available for potential ingestion/inhalation exposure under either case
  - 5000 cubic yard or greater projects (with 10-day concurrence) now applies uniformly to all fill projects; currently all “unconfined” fills need concurrence



# Geotechnical Fill

- 100-foot setbacks to wells and residences; reduction from current 200-foot setback
- UW groundwater model supports reducing private well setback from 200 to 100 feet:
  - still conservative (10x dilution at 200 feet and 8x dilution at 100 feet); most dilution occurs within first 100 feet
  - Does not account for attenuation or geotechnical effects which would be site-specific and further reduce the concentrations; assumes no vadose zone
  - supports 5x ES standard in Appendix I
- Concurrence is possible for closer than 100 feet; concurrence based on site-specific factors (i.e. groundwater flow direction, depth, geology)



# Geotechnical Fill

- Separation to water table; 3 feet or 5 feet greater than 5000 cubic yards
  - Supported by UW study of road base material (80% dilution at 3 feet of unsaturated soil)
  - 5 foot separation warranted for larger volumes and mine sites; water table is only determined at time of placement; accounts for variability
  - Current required separation is 3 feet with concurrence required for anything less than 5 feet (greater than 5000 cubic yards)
  - 5-foot is comparable to Federal CCR placement rules and other States (Ohio)



# Geotechnical Fill

- Create more certainty for applicant by defining when a case-specific approval is required:
  - Mine reclamation in dolomitic quarries; will have complex fracture flow; no attenuation; dewatering
  - Legacy mines (over 10,000 cubic yards) need a reclamation plan review
  - Fills in excess of 100,000 cubic yards:
    - fills of this size or larger are typically multi-year and not using existing byproduct;
    - need site-specific conditions to ensure the site is properly managed if byproduct source varies or ceases;
    - additional monitoring may be needed;
    - may need additional engineering support
    - 100,000 cubic yard limit is from current limit on fully encapsulated embankments



# Reporting and Tracking

- Requires more reporting detail so byproduct use can be better tracked:
  - Amount reused, who it went to and for what use (annual reporting)
  - For fills, larger projects (>5000 cubic yards) will be required to submit detailed project locations with GPS coordinates
  - DNR will create a GIS database to track these locations





# Reporting and Tracking

- Establishes a way to modify a project concurrence if needed
- Copy of the property owner notification and public notice(if needed) to the DNR to verify compliance



# Storage Requirements

- Updates and simplifies:
  - Exempts small municipal storage sites (300 cubic yards)
  - Exempts temporary off-site storage or staging areas
  - Impervious pad required only for storage of byproducts in excess of Table 1A (groundwater protection)
  - Standard storage facility designs; eliminate storm water requirements (defer to permit conditions)



# Property Owner Notification

- Simplified:
  - Previous version had different requirements depending on volumes and categories
  - Proposing one uniform set of requirements
  - Requires that the DNR receive a copy to verify compliance
  - on-line form to make it efficient and user-friendly



# Fill Excavations

- New section to address excavations of old fills (previously in guidance only):
  - Written notification and concurrence process
  - Allows appropriate re-use of the material or disposal
  - Exemptions for fill excavations of 1000 cubic yards or less



# Self-Implementation

- Added concurrence to Initial Certification:
  - 10-day review once the submission is complete or approved
  - Yes, no, more information or case-specific
- Kept 10-day concurrence for fills in excess of 5000 cubic yards; no concurrence for fills less than that



# Conclusions

- Goals set out for this revision are met through the proposed Code changes:
  - Maintains self-implementation concept and allows flexibility
  - Simplified for better understanding and compliance
  - Meets public's needs for assurance that the material is being legitimately re-used
  - Applies new and updated standards that are scientifically defensible



# Next Steps

- The TAC meetings are over, but your opportunity to comment is not:
  - Allow written comments or meet with DNR to discuss changes or concerns; goal is to have a final draft by the end of October
  - After that date, a final version will be prepared for internal DNR review process (i.e. economic analyses)
  - There will be public comment periods as well; TAC members are encouraged to participate
  - Goal is to have buy-in by the TAC members
  - Positive comments are always welcome!





# Public Comments

- Economic Impact Assessment (EIA)
  - Work with DNR economist to assess the potential economic impact of the revisions
  - Release EIA for public comment period (14, 30 or 60 days); DNR will respond and revise as needed
- Public Hearings
  - After review by Natural Resource Board, hearings are scheduled
  - Respond to public comments; finalize rule language



# Rule Adoption

- Assemble all background documentation and formally submit to the NRB for adoption of the rule (board meeting)
- Submit to governor's office for approval
- Legislative review
- Final rule adoption, hopefully before February, 2020; after that, the Scope Statement expires and we have to start from scratch





# Next Steps

- DNR will continue to communicate with the TAC members to update you on the review process as it progresses
- If you have any questions or concerns, please feel free to contact the BU Team any time

**THANK YOU AGAIN FOR ALL YOUR CONTRIBUTIONS TO THIS REVISION PROCESS!!!**



# Questions?

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