

Beneficial Use of Industrial Byproducts: Transition to Revised Rules

Guidance on Chapter NR 538, Wis. Adm. Code, Requirements



Introduction

The purpose of this document is to provide guidance to generators, brokers, and end users during the transition between the existing and revised rules found in ch. NR 538, Wis. Adm. Code, governing the beneficial use of industrial byproducts.

The original rules governing the beneficial use of industrial byproducts were promulgated in 1997, with minor modifications in 2006. Due to the promulgation of new groundwater quality health standards, the expanded use of new byproducts such as flue gas desulfurization gypsum and new federal rules on the beneficial use of coal combustion residuals, the department determined that the rule needed to be updated. The Natural Resources Board approved undertaking the revision of ch. NR 538, Wis. Adm. Code, in October 2016. In accordance with the legislation authorizing the establishment of beneficial use rules under s. 289.05(4), Wis. Stats., a Technical Advisory Committee (TAC) comprised of various industrial byproduct generators, users, brokers and other interested parties was formed to provide comments and advise the Department of Natural Resources during the rule revision process.

Following numerous TAC public meetings, discussions and comment periods, a revised set of rules was submitted and approved by the NRB in December 2019, and then submitted to the Legislature for review and approval. The rule revisions were published in the Administrative Register on June 1, 2020.

Note: The new rules become effective Nov. 1, 2020. The revised chapter NR 538, Wis. Adm. Code, can be found at: http://docs.legis.wisconsin.gov/code/admin_code/nr/500/538

Rule changes

Changes to the rules include the addition of new beneficial uses, updated and new definitions, requirements for the excavation of existing beneficial use fill projects, updated characterization standards, and a simplified and reorganized Appendix. The most noticeable change is the elimination of industrial byproduct beneficial use “categories,” which have been replaced with “eligible uses.”

Under the old rules, industrial byproducts were assigned a category of 1-5 based on the chemical characteristics of the materials. A Category 1 material would exhibit the lowest levels of contaminants and was allowed almost unrestricted use, while a Category 5 material would exhibit the highest levels of contaminants and would be approved only for extremely limited uses.

Under the revised rules, each individual industrial byproduct will be characterized by the generator and, based on this characterization, the material will qualify for certain defined eligible uses as described in s. NR 538.10, Wis. Adm. Code. The characterization is based on a simplified set of chemical parameters, found in the Appendix, and eligible uses are based on the potential for that use to result in an adverse environmental or human health exposure.

For example, coal slag proposed for an unconfined use such as bonded surface course, would be subjected to more restrictions than the same coal slag proposed for an encapsulated use such as incorporation as an ingredient in hot-mix asphalt.

Definitions

The revised rules better clarify the differences between “certification” and “characterization,” terms which were previously used in similar ways. Under the revised rules:

Certification refers to the certification submitted by the generator to the DNR demonstrating that use of the industrial byproduct will meet the performance standards for beneficial use under ch. NR 538 Wis. Adm. Code. The three certification types in the rule are:

Initial certification

This refers to the reporting requirement that a new byproduct material, or an existing byproduct material for which the generation process has substantially changed, be submitted to the department by the byproduct generator for certification in accordance with s. NR 538.14(1), Wis. Adm. Code, for the purpose of assigning appropriate eligible beneficial uses. This submittal can be made using the electronic form 4400-197. (<https://dnr.wi.gov/files/PDF/forms/4400/4400-197.pdf>)

Recertification

This refers to the reporting requirement that existing industrial byproducts already certified through the initial certification process be “*recertified*” at least once every 4 years in accordance with s. NR 538.14(2), Wis. Adm. Code, by the byproduct generator for the purpose of confirming the eligible beneficial uses are still appropriate. This includes the requirement for “*recharacterization*” (see below) of the byproduct material if 1000 cubic yards or more of byproduct material were used or stored in any prior calendar year prior. This submittal can be done using the electronic form 4400-197. (<https://dnr.wi.gov/files/PDF/forms/4400/4400-197.pdf>)

Annual certification

This refers to the requirement that the byproduct generator report the amounts of byproduct material reused or stored in any given calendar year, and a description of how the material was used, in accordance with s. NR 538.14(3), Wis. Adm. Code. This submittal can be made on-line or by using the electronic form 4400-198. (<https://dnr.wi.gov/files/PDF/forms/4400/4400-198.pdf>)

The department recommends using the on-line reporting system for the annual certification submittal. Instructions on how to access and use the on-line system can be found on the Beneficial Use Program website: <https://dnr.wi.gov/topic/Waste/Beneficial.html>

Characterization refers to the collection and analysis of a representative sample of byproduct material in accordance with s. NR 538.06, Wis. Adm. Code. The sample results would then be compared to the appropriate standards in the Appendix tables to determine eligible uses for the byproduct material and submitted to the DNR in either the initial certification or recertification as described above.

Initial characterization

This refers to when the generator collects and analyzes a representative sample of a new or substantially changed byproduct material in accordance with the requirements of s. NR 538.06(2), Wis. Adm. Code.

Recharacterization

This refers to when the generator collects and analyzes a representative sample of an existing byproduct material in accordance with s. NR 538.06(5), Wis. Adm. Code. This recharacterization is required at least once every 4 years unless the generator uses or stores less than 1000 cubic yards per year.

Byproduct characterization and certification

The beneficial use rules allow for self-implementation of the program and the revised rules maintain this approach. Once the revised rules go into effect on Nov. 1, 2020, it will continue to be the responsibility of the generator to compare analytical results to the standards in the Appendix tables to ensure that the beneficial uses of byproducts are permissible under the revised rule and the new standards.

On or after Nov. 1, 2020, in accordance with the revised rules:

Initial characterization

All industrial byproducts that are new or are existing byproducts for which the generating process has significantly changed, will require characterization of the industrial byproduct material in accordance with s. NR 538.06(2), Wis. Adm. Code. The characterization process under the revised rules is similar to that under the existing rules, including use of the same testing methodologies. Under the revised rules, test results will be submitted to the department for review and concurrence under the initial certification process to verify that the industrial byproducts are eligible for the use(s) proposed by the generator under the beneficial use rules.

Recharacterization

Industrial byproduct generators will be responsible for recharacterizing their byproduct material in accordance with s. NR 538.06(5), Wis. Adm. Code, through use of the ASTM water leach test and the bulk analysis tests specified in the code requirements. The generator can then compare the analytical results to the Appendix tables and determine the eligible use(s). Under the revised rules, test results will now be submitted to the department for review and concurrence in accordance with ss. NR 538.06 and 538.14(2), Wis. Adm. Code, to verify that the eligible beneficial uses are still appropriate.

Initial certification

If it is a new, or an existing industrial byproduct for which the generating process has substantially changed, the generator will be responsible for completing an initial certification in accordance with s. NR 538.06(1), Wis. Adm. Code, and submitting it to the department for review and concurrence. The department will respond in 10 business days with either a concurrence with the eligible uses, a request for more information, or a determination that the byproduct or uses need a case-specific approval under s. NR 538.09, Wis. Adm. Code.

Recertification

In accordance with the initial applicability language under the revised s. NR 538.06(6), Wis. Adm. Code, generators that submitted an initial certification prior to Nov. 1, 2020:

1. Are **not required** to submit a new initial certification (or recertification) to the department until up to 4 years past the date of the initial certification or last recharacterization under the existing rules provided there has been no substantial change to the generation process.
2. May **choose** to submit a recertification including a recharacterization and a hazardous waste determination under ss. 538.06(3)(b), Wis. Adm. Code, to the department any time within 4 years of the date the initial certification or last recharacterization under the existing rules, provided there has been no substantial change in the process that produces the industrial byproduct.
3. May use **existing analytical results** from either the initial characterization, or the most recent recharacterization. and **compare the results to the Appendix in the revised rules** to determine their eligible uses.

Annual certification

For the 2020 Reporting Year, the information to be reported will follow the rules in effect before Nov. 1, 2020. Annual certifications are due no later than April 1, 2021 for byproducts used during 2020.

The information to be reported will follow the revised rule beginning with the 2021 Reporting Year. Generators will still be required to submit the volumes of each industrial byproduct beneficially used in the calendar year, unless it was under 1000 cubic yards, but the revised reporting format will now include a brief description of the eligible uses employed over the past calendar year. Storage volumes will also be reported as the volume of byproduct material that is stored as of December 31st of the reporting year. As noted above, we encourage all generators to file their annual certifications using our on-line reporting system, which will be revised to reflect the new requirements in time for the 2021 Reporting Year.

After Nov. 1, 2020, generators are responsible for ensuring that they comply with the new standards.

Geotechnical fill projects

The rules relating to the approval and design of geotechnical fill projects have been revised and can be found in s. NR 538.10(2), Wis. Adm. Code. The terms “confined” and “unconfined” have been clarified so that all geotechnical fill projects with adequate cover are defined as “confined,” and uses that are exposed at the surface (i.e., unbonded surface course) are defined as “unconfined.”

New geotechnical fill project requirements

After Nov. 1, 2020, any new projects or modifications to existing projects will be subject to the revised reporting rules. This includes obtaining a concurrence from the department for all geotechnical fill projects utilizing industrial byproducts in excess of 5000 cubic yards, in accordance with s. NR 538.10(2), Wis. Adm. Code. In addition, a completed Owner Notification Form 4400-199 <https://dnr.wi.gov/files/PDF/forms/4400/4400-199.pdf> will be required to be submitted to both the department and the property owner, per s. NR 538.22, Wis. Adm. Code.

Existing geotechnical fill projects

Geotechnical fill projects that received a concurrence from the department under the s. NR 538.14(4), Wis. Adm. Code in effect prior to Nov. 1, 2020 may continue under the conditions of the old rule until the project is completed. This also applies to geotechnical fill projects under the existing ss. NR 538.10(5)(a) and (b), Wis. Adm. Code, that are less than 5000 cubic yards that were not required to obtain a concurrence from the Department. **Applicants will not have to submit a new notification or obtain a new concurrence from the department, nor do they need to submit a new Owner Notification Form, for existing projects approved or initiated prior to Nov. 1, 2020.** However, as noted above, existing projects that are modified after the effective date will be subject to the new rules.

Case-specific approvals

Case-specific approvals issued under the old s. NR 538.08(7), Wis. Adm. Code, will remain in force until the approval expires or is rescinded by the department at the request of the applicant.

Under the revised rules, when a case-specific approval expires or is rescinded, the applicant may:

1. request that the department extend or modify the approval and issue another approval under the revised s. NR 538.09, Wis. Adm. Code, or

2. request that the activity be regulated under the revised rules by submitting an Initial Certification form.

The department may choose to renew the approval, modify it or allow the applicant to utilize the revised code, provided the byproduct material meets the revised code requirements and is certified under the revised s. NR 538.14(1), Wis. Adm. Code.

Resources

For more information on this subject, including other publications, staff contacts and administrative codes and statutes related to beneficial use of industrial byproducts (or beneficial use), go to dnr.wi.gov and search “beneficial use.”

PUB-WA-1906 2020

Mailing address: DNR Waste & Materials Management Program, PO Box 7921 Madison, WI 53707

Email: DNRWasteMaterials@Wisconsin.gov

***Disclaimer:** This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.*

***Equal Opportunity Employer and Americans with Disabilities Act Statement:** The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Chief, Public Civil Rights, Office of Civil Rights, U.S. Department of the Interior, 1849 C. Street, NW, Washington, D.C. 20240.*

This publication is available in alternative format (large print, Braille, etc.) upon request. Note: If you need technical assistance or more information, call the Accessibility Coordinator at 608-267-7490 / TTY Access via relay – 711.