

SUBJECT: Request adoption of Board Order WA-33-10, revisions to NR 500, 502 and 518, relating to compost facilities.

FOR: OCTOBER 2011 BOARD MEETING

TO BE PRESENTED BY / TITLE: Brad Wolbert, Recycling & Solid Waste Chief, Waste & Materials Mgt Bureau

SUMMARY:

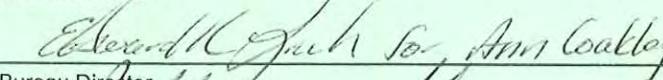
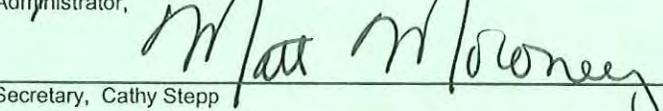
Demand is increasing among generators of organic waste materials such as restaurants, food service facilities and grocery stores for non-landfill disposal methods such as composting. The proposed rule revisions expand the range of organic materials that can be accepted by municipal and commercial compost facilities to include additional types of food scraps as well as compostable, non recyclable paper and other source-separated compostable materials to meet this demand while maintaining appropriate environmental protections. The proposed rule revisions would also make it easier for farmers who operate compost facilities on their property to accept food scraps and related materials. In addition, compost producers have long advocated the development of state compost quality standards to help define in the marketplace the attributes of a high-quality compost product. Compost quality standards have the potential to boost the demand for compost, thereby facilitating the diversion of compostable material from landfills, where it decomposes to create methane, a global warming gas. The proposed rule would establish voluntary numerical limits on trace metals, pathogens, inert contaminants and compost maturity/stability; these limits would only apply to compost operators wishing to produce "Class A compost," a new optional category of compost defined in the rule. Class A compost could only be produced from source-separated compostable material such as yard residuals, food scraps, non-recyclable paper, manure, crop residues and other commonly composted and well-understood materials. The proposed rule would primarily affect municipal and commercial compost facility operators. Other affected parties would include generators of food scraps and other compostable materials, compost users such as transportation departments, landscapers, homeowners and public works agencies, and others in the waste management industry. The proposed rule revisions were developed in collaboration with municipal and commercial composters, the agricultural community, the University of Wisconsin, environmental groups and affected state agencies.

RECOMMENDATION: Adopt the proposed revisions to NR 500, 502 and 518 as outlined in Board Order WA-33-10, relating to composting facilities.

LIST OF ATTACHED MATERIALS:

- | | | | | | |
|----|-------------------------------------|---|-----|-------------------------------------|----------|
| No | <input type="checkbox"/> | Fiscal Estimate Required | Yes | <input checked="" type="checkbox"/> | Attached |
| No | <input checked="" type="checkbox"/> | Environmental Assessment or Impact Statement Required | Yes | <input type="checkbox"/> | Attached |
| No | <input type="checkbox"/> | Background Memo | Yes | <input checked="" type="checkbox"/> | Attached |

APPROVED:

 Bureau Director,	<u>8/19/11</u> Date
 Administrator,	<u>9/16/11</u> Date
 Secretary, Cathy Stepp	<u>10/5/11</u> Date

cc: NRB Liaison
DNR Rules Coordinator

CORRESPONDENCE/MEMORANDUM

DATE: August 19, 2010

TO: Natural Resources Board

FROM: Cathy Stepp

SUBJECT: Background Memo for Final Adoption of Board Order WA-33-10, Proposed Revisions to NR 500, 502 and 518, Relating to Composting of Solid Waste

I. WHY THE RULE IS BEING PROPOSED*A. Action or event that triggered the proposed rule?*

Large segments of the business community, local government and other organizations are increasingly interested in operating in an environmentally sustainable manner. Businesses and institutions that generate unwanted organic materials such as food scraps are seeking outlets for managing these materials that do not involve landfilling. Composting is the traditional way of managing organic discards in a manner that retains the productive value of these materials. However, Wisconsin's regulations governing compost facilities, contained in s. NR 502.12, Wis. Adm. Code, were developed primarily for the management of yard residuals. They do not adequately facilitate composting of mixed food scraps, compostable paper and other routine organic discards. In addition, because Wisconsin's administrative rules do not provide any standards for compost quality, commercial compost producers believe that they are not rewarded (in terms of market price) for manufacturing high-quality compost. This situation led a group of composters and recyclers, under the auspices of the Associated Recyclers of Wisconsin (AROW), to petition the department to promulgate administrative rules establishing compost quality standards for high-quality compost made from source-separated compostable materials. The department received the petition for rulemaking in the form of a letter from AROW dated March 5, 2008.

B. What issues are addressed by this rule?

The proposed rule defines a category of solid wastes called "source-separated compostable materials" that can be composted with relatively little risk to public health and the environment. It establishes the operating procedures, locational restrictions, design elements and other parameters under which these materials can be composted without full-scale plan review by department staff. This represents an expansion of the current system, which applies the same approach to a more limited set of compostable materials such as yard trimmings. In addition, the rule establishes standards for a new category of compost, "Class A compost," which could only be made from source-separated compostable materials. Compost producers choosing to make Class A compost would be subject to testing requirements and their product would have to meet numerical limits on metals, pathogens, inert contaminants and maturity/stability in order to be marketed as Class A compost.

II. SUMMARY OF PROPOSED RULE

The proposed rule expands the existing system of streamlined permitting for certain types of compost facilities. The permitting system is established in s. NR 502.12, Wis. Adm. Code, and is based on the facility's size and the risks associated with the raw materials being composted, in addition to general environmental protection provisions applying to all compost facilities. In addition, the proposed rule

introduces voluntary compost quality standards that compost producers and users can rely on to identify higher-quality compost products made using carefully controlled processes and low-risk feedstocks.

A. Expanded system of streamlined permitting: Compost facilities are considered to be solid waste processing facilities. Because composting limited quantities of certain natural materials such as yard trimmings, farm animal manure and crop residues carries such a low risk of significant harm to the environment and public health, the department, like its counterpart agencies in most other states, has for many years regulated these composting operations using a simplified set of requirements. The proposed rule would expand the list of permissible materials that could be composted in limited quantities without triggering the requirement for the composting facility to obtain a solid waste processing approval. The new list would include mixed food scraps, non-recyclable paper, fish processing residues, aquatic plants, greenhouse residuals and similar materials. It would exclude more variable and potentially contaminated materials like biosolids or sewage sludge, municipal solid waste and high-volume industrial wastes.

The proposed rule would expand the types of composting facilities not classified as solid waste processing facilities to reflect current demand for composting among a variety of businesses and institutions such as grocery stores, hospitals, schools and universities, restaurants and special events. Farms as well as yard material composting facilities would be allowed to accept food scraps for incorporation into the composting process without obtaining a solid waste processing facility license so long as they met the general code requirements for composting facilities.

B. General environmental protection provisions applying to all compost facilities: The proposed rule clarifies and strengthens certain operating and design criteria that apply to compost facilities. These include:

- reducing the potential for nuisance odor conditions by increasing the minimum carbon-to-nitrogen ratio from 12:1 to 20:1,
- prohibiting the movement of composted livestock carcasses from farm to farm,
- requiring additional attention by compost site operators to stormwater pollution controls,
- requiring most compost facilities to maintain records of temperatures and turning frequencies to promote pathogen reduction,
- introducing a plan review step for permitting of non-farm, non-yard-material (i.e., mostly food) composting facilities, and
- requiring most non-farm facilities to report annually on compost volumes produced.

C. Voluntary compost quality standards: The proposed rule revisions define standards for a new category of compost product, "Class A compost." Class A compost could only be made from source-separated compostable materials. These are defined in the rule to include relatively benign and well-understood organic residuals such as yard trimmings, food residuals, non-recyclable paper, herbivorous animal manure, crop residues and other similar materials. Compost facility operators choosing to produce Class A compost must keep records showing compliance with temperature and residence time standards, and must demonstrate compliance with numerical criteria for pathogens, metals, inert contaminants and maturity/stability through a regimen of periodic sampling and testing in accordance with industry best practices. The metals standards in the rule are set at levels that would prevent any degradation of Wisconsin soil quality while reflecting the ability of composters to consistently produce compost with low concentrations of toxic metals.

III. HOW DOES THE RULE AFFECT EXISTING POLICY?

The proposed rule is consistent with Department policy in several respects. A 2009 study on the composition of wastes in Wisconsin landfills shows that more than 10 percent of the material Wisconsinites landfill is food scraps. In all, at least one-third of the waste that is landfilled could be composted and beneficially returned to the soil. Wisconsin's waste management hierarchy favors composting over landfilling, and it is department policy to reduce the adverse environmental impacts and risks of landfilling. The proposed rule would facilitate the diversion of organic material from landfilling by reducing the regulatory impediments to composting food scraps and by increasing the marketability of high-quality compost. By making it easier and more economically rewarding to compost, the rule would reduce the overall environmental impacts of managing organic waste materials. The proposed rule would also reinforce existing policy on the regulation of compost facilities by upgrading operational standards in the areas of stormwater management, acceptable carbon-to-nitrogen ratios (which affect the potential to cause unpleasant odors) and the speed with which newly received materials are incorporated into the composting process. Notes to the rule would clarify the relationship between composting standards administered by the Waste and Materials Management program and those administered by the Watershed Management program for agricultural operations.

IV. HEARING SYNOPSIS

At its October 2010 meeting the Natural Resources Board authorized the Department to hold hearings to solicit input on the proposed rule revisions. The Department held a public hearing on December 13, 2010. The hearing was held in Madison and was simultaneously broadcast using a two-way electronic link to locations in Oshkosh, Rhinelander, Milwaukee and Eau Claire. Five people offered oral comments at the hearings. Additionally, the Department received written comments from 21 individuals and organizations. Detailed responses to the comments received are included in Attachment 1: Summary of Public Comments, Proposed NR 502 Composting Rule Revisions.

V. CHANGES MADE TO THE PLAIN LANGUAGE ANALYSIS OR THE FISCAL ANALYSIS

Changes made to the rule in response to comments received were not significant enough to affect the plain language analysis or the fiscal analysis.

VI. INFORMATION ON ENVIRONMENTAL ANALYSIS

Under the provisions of s. NR 150.03(6)(b)3b., Wis. Adm. Code, Environmental Analysis and Review Procedures for Department Actions, this is a Type III action, since the rule will result in no material adverse impacts to the human environment. The rule is designed to increase the composting of organic materials and reduce the amount of material that is disposed of in landfills. The Waste and Materials Management program concludes, and the department's Integrated Science Services program confirms, that it is not necessary to prepare an environmental analysis for this proposed rule.

VIII. SMALL BUSINESS ANALYSIS

A. 1. *Describe the compliance and/or reporting requirements imposed on small business.*

The proposed rule maintains most of the existing compliance requirements for composting facilities that do not choose to produce Class A compost as defined in the rule. In addition, certain compliance requirements are eased:

- the proposed rule would make it possible to compost mixed food and a wider variety of source-separated compostable materials without obtaining a solid waste processing approval;
- farmers could incorporate food and other compostable materials into their manure and crop residue composting operations without a solid waste processing approval, and
- finished compost would not count against a composting facility's capacity limits.

A few other compliance requirements would be somewhat more stringent under the proposed rule:

- the minimum carbon-to-nitrogen ratio would be increased from 12:1 to 20:1 (reflecting generally accepted composting practices);
- facility operators would have to comply with minimum requirements for stormwater control (in lieu of obtaining coverage under a stormwater permit under ch. NR 216, Wis. Adm. Code); and
- most commercial and municipal compost facilities would be required to submit a brief annual report to the department indicating the volume and type of material composted the previous year. To minimize time spent on reporting, this annual report would consist of a few additional questions on the existing license renewal form.

Compost producers opting to make Class A compost would also need to test compost samples a few times per year to ensure that their material meets the quality standards in the proposed rule for pathogens, metals, inert contaminants and maturity/stability.

2. Can these compliance and/or reporting requirements be made less stringent for small business?

The proposed rule is structured to minimize compliance and reporting requirements for small businesses as well as municipalities that operate composting facilities, as follows:

Almost all composting facilities are classified under both the current and proposed rules as "exempt" facilities. This means they do not have to comply with certain requirements that apply to the very largest compost facilities (e.g., yard residual composting facilities with a capacity greater than 20,000 cubic yards) or the more general category of solid waste processing facilities. Most composting facilities that would be covered under the proposed rule are exempted from managing liquids that contact materials being composted as leachate, which requires collection into a basin or tank sized for a 24-hour storm event with a recurrence interval of 25 years, as well as sampling and testing. They are also exempt from having to construct an asphalt, concrete or recompacted clay pad on which to conduct composting operations. Exempt yard residual composting facilities, which make up the vast majority of exempt facilities, as well as exempt on-farm composting facilities, do not have to submit a plan of operation for department approval. Under both the current and proposed rules, operators of exempt composting facilities are not subject to requirements to provide proof of financial responsibility, do not have to provide the department with construction documentation ("as-builts") for approval prior to operation, and do not have to sample and test their compost unless (under the proposed rule) they wish to produce Class A compost.

In addition to the above, all composting facilities regulated under s. NR 502.12, Wis. Adm. Code are exempt by rule from plan review and licensing fees.

B. 1. Describe the schedules or deadlines for compliance or reporting imposed on small business.

To the extent there are new compliance requirements in the proposed rule, they would take effect upon publication of the rule. Most of the compliance requirements, such as operational standards and recordkeeping requirements, reflect current industry practices and are not expected to impose a burden on small businesses producing compost.

Reporting would be on an annual basis during the slack season for compost producers. It would involve the minimum information, such as material quantities, needed by the department to develop a statewide estimate of compost production. To minimize the burden of this reporting requirement, it would be carried out by the addition of three short questions on the annual license renewal form already utilized by the affected facilities (see Attachment 2: Report Format).

2. Can these schedules or deadlines be made less stringent for small business?

The compliance requirements are designed to protect the environment from any risks associated with composting (e.g., odors, surface water or groundwater contamination) and need to be in effect upon promulgation of the rule. Therefore, they cannot be amended or relaxed for small business.

C. Can the compliance or reporting requirements for small business be consolidated or simplified?

The current and proposed composting facility rules represent a simplification of the general NR 502 rules for solid waste processing facilities, tailored to the particular characteristics of compost facility design and operation. The annual report would be simplified and consolidated into an existing license renewal form (Attachment 2) to minimize any reporting burden on small businesses.

D. Can performance standards be established for small businesses in lieu of design or operational standards?

The proposed rule relies primarily on performance standards for most farm composting operations. The operational standards that would apply to other exempt composting facilities reflect standard industry practices and include a number of qualitative measures proportional to the goal of preventing these facilities from causing nuisance conditions. The design standards in the current and proposed rules are performance-based, not prescriptive. Therefore, much of the proposed rule is performance-based already and it is not feasible to make it more so.

E. Can small business be exempted from any requirements of the rule?

The rule is structured around a series of graduated exemptions based on the capacity of the composting facility and the environmental risk posed by the materials to be composted at the facility. Most composting facilities would qualify for exemptions from full regulation under the proposed rule. Because most of the operations that will be governed by the rule are small businesses or municipalities, exempting small business from the rule would undermine the environmental protections the rule provides. It would create an uneven playing field for commercial facilities relative to municipal facilities.

F. Initial Regulatory Flexibility Analysis

1. Describe the type of small business that will be affected by the proposed rule.

The rule regulates compost facilities. Wisconsin has fewer than 250 licensed compost facilities, three-quarters of which are municipally owned facilities. The remainder are commercial facilities, of which some are owned by large waste disposal companies and the rest are small businesses of one to 10 employees. The rule would also affect farmers that wish to compost crop residues, manure or animal carcasses on their property. Some of these would be classified as small businesses.

2. Briefly explain the reporting, bookkeeping and other procedures required for compliance with the rule.

The reporting requirements in the rule would not require additional records to be kept by compost operators beyond those already necessary for conducting business (e.g., volume or tonnage records). For owners opting to make Class A compost, periodic sampling of the compost would be required; and records would need to be kept on windrow turning frequency and temperature patterns. The producers most likely to produce Class A compost are those who already keep such records and sample their compost for quality testing.

3. Describe the type of professional skills necessary for compliance with the rule.

The proposed rule would not require skills any different than those required by the current rule. Compost facility operators will need to understand the principles of composting, how to move large quantities of materials, how to control drainage and traffic, how to make basic physical measurements such as volume, temperature and bulk density, and how to calculate carbon-to-nitrogen ratios using standard recipe calculators. These skills are currently necessary in any case to the business of composting. Under both the current and proposed rules, operators of new or expanding non-exempt compost facilities would need to obtain the help of an engineer to for facility design and plan preparation.

ATTACHMENT 1

Summary of Public Comments

Proposed NR 502 Composting Rule Revisions

Introduction

The Department held public hearing(s) on December 13, 2010 in connection with the proposed rule revisions. The hearing was conducted simultaneously in five locations statewide: it was facilitated from Room 513 in the Natural Resources Building in Madison and was linked electronically to meeting rooms in Oshkosh, Rhinelander, Milwaukee and Eau Claire. Dan Graff, formerly of the Department's Bureau of Legal Services, presided over the hearing. Waste and Materials Management program staff in attendance included Brad Wolbert in Madison, Sherry Otto in Rhinelander, Nancy Gloe in Milwaukee, Mike Wenholz in Eau Claire, and Jennie Easterly and Dave Misterek in Oshkosh. Five oral comments were received at the hearings. A tabulation of the appearances at these hearings is provided below.

Hearing Location	As Interest May Appear	In Support	Opposed
Madison	3 (1 oral comment)	3	
Oshkosh	1		
Rhinelander			
Milwaukee	6 (2 oral comments)	3 (2 oral comments)	
Eau Claire			
Total	10 (3 oral comments)	6 (2 oral comments)	0

In addition to comments received at the hearings, the Department received 21 written comments including those from the Legislative Council Rules Clearinghouse.

Comments and the Department's responses are provided below. Many of the comments have been edited or paraphrased for the sake of brevity or clarity, or where multiple commenters made substantially the same point. In no case have we attempted to alter the substance of a comment.

General Comments

1. *COMMENT: The City of Milwaukee supports the proposed rule revisions. It is appropriate and prudent to expand the types and quantities of decomposable organic materials that can be composted with minimal regulation. This will help reduce excessive barriers to composting of food waste and other non-yard waste organic materials that too often are wasted when they could be recovered. Composting organics must be expanded to significantly increase our overall waste recovery levels. We also support the voluntary quality standards for finished compost. This will assist in differentiating high quality compost products in the marketplace, potentially increasing the financial viability of composting operations. The proposed composting rule revisions provide a positive step forward towards sustainable management of discarded organic materials in Wisconsin. (Rick Meyers, City of Milwaukee Public Works Department)*

COMMENT: The Waukesha County Environmental Action League (WEAL) supports the proposed revisions to NR 500, 502 and 518 relating to compost facilities as written. WEAL [...] believes the establishment of a clear definition for source-separated compostable materials, along with standards for Class A compost, is necessary to ensure a contaminant-free end product. (Charlene Lemoine, Waukesha County Environmental Action League)

COMMENT: *I want to record my official support of the proposed revisions to the composting regulations. (Claire Strader, Troy Community Farm and Madison FarmWorks/Community GroundWorks)*

COMMENT: *The new compost plan is reasonable. (Charlie Evenhouse, Oneida County Solid Waste Department)*

COMMENT: *The East Central Wisconsin Regional Planning Commission (ECWRPC) supports the proposed composting regulations. We support removing organic material, particularly food waste, from the waste stream entering landfills. We feel that statewide composting standards will expand the demand for composting within the state, and thus the diversion of compostable materials from landfills, and will expand the markets for use of this product. This rule will result in many positive changes for the state. (Kathy Thunes, East-Central Wisconsin Regional Planning Commission)*

COMMENT: *I love composting—I'm all for making it easy for folks to do it! (Carlo Grombi)*

COMMENT: *The Associated Recyclers of Wisconsin's (AROW) Organics and Composting Committee strongly supports the revision of the composting rule. The new composting standards will further promote the beneficial use of organic wastes by composting, and allow Wisconsin's compost industry to continue to grow and expand. There is still more demand for compost than supply available in many parts of the state. The new standards increase material recovery, encourage entrepreneurship, and move Wisconsin closer to its goal of zero waste and landfill stabilization. The compost rule revision will benefit the composting industry, municipalities, consumers and Wisconsin. We encourage approval of these revisions. (Jennifer Semrau et al., Associated Recyclers of Wisconsin)*

COMMENT: *Waukesha County supports revisions to the composting administrative code that remove barriers to the proper composting of food residuals and provide more infrastructure for alternatives to landfilling source-separated organics. (Karen Fiedler, Waukesha County Department of Parks and Land Use)*

COMMENT: *Staff from the cities of Madison, Middleton and Fitchburg have reviewed the proposed rule revisions and support the revisions as written. We believe demand for the collection of food residuals and source-separated organics will continue to grow. The proposed rule will ease the implementation of citywide programs. We applaud the inclusion of a "Class A" compost designation as proposed; this will increase the revenue potential and economic viability of aerobic processing facilities. (Cities of Madison, Middleton and Fitchburg)*

COMMENT: *The proposed rule clarifies and defines source separated organics, acknowledges current producers of high quality compost in the state while providing a framework for existing and new producers to improve quality and markets. It will promote the diversion of additional source separated organics, improve compost quality in the state, further promote decentralization of processing facilities, and expand markets for high quality compost. I strongly encourage the DNR Board to approve the proposed compost rule revisions. (Sandy Syburg, White Oak Farm, LLC)*

COMMENT: *I generally believe the proposed rule changes are good. (Jeanne Whitish, 2nd Season Recycling, LLC)*

COMMENT: *Waste Management (WM) supports a broad range of organics options. WM is committed to advancing both existing and emerging organics technologies in a way that optimizes their environmental and economic sustainability. We commend Department staff, the Associated Recyclers of Wisconsin, the members of the technical advisory committee and other parties who are seeking to further Wisconsin's organics management, and we support the draft rule's proposed Class*

A compost standards that were the original impetus for this rulemaking. (Lynn Morgan, Waste Management)

COMMENT: Many national grocery chains, restaurants, food service facilities and other institutions in Wisconsin are actively seeking non-landfill options such as composting for organics. The proposed rule revisions would help them meet their goals by expanding the range of organic materials that could be accepted at compost sites. Producers of high quality compost have asked for state compost quality standards. Having these standards would help consumers make more educated compost purchases and encourage other compost facilities to improve their compost. Ultimately this optional category of compost could further increase demand and diversion of organics from landfills. I strongly encourage the DNR Board to approve the proposed compost rule revisions. They will benefit the business, institutional, farm, municipal, private composter and consumer sectors of our state. (Kathy Powell)

RESPONSE: The Department appreciates these expressions of support for the proposed rule changes.

2. *COMMENT: Diverting organic materials such as food scraps from restaurants, food service facilities and grocery stores from landfills to composting facilities moves Wisconsin one step further toward a comprehensive Zero Waste policy. Additionally, WEAL encourages the DNR to pursue the inclusion of organic materials from residential generators to utilize resources and effectively limit dependence on landfills and other forms of disposal. (Charlene Lemoine, Waukesha County Environmental Action League)*

RESPONSE: We believe the proposed rule would streamline the permitting of food composting facilities, thereby making it more feasible for communities and private waste contractors to include both residential and non-residential food scraps and other source-separated compostable materials such as nonrecyclable paper in composting programs that would divert organic materials from landfill disposal.

3. *COMMENT: Sweet Water Organics, while pleased to see that the rule provides clarity and uses more user-friendly language, is concerned that the DNR has missed a critical opportunity to serve in a capacity of educating managers of composting facilities and gardeners to produce a better product and one that the public has more confidence in. This might be accomplished by providing more detail on Turning Frequency based on Sustained Temperature requirements to eradicate pathogens and exhaust weed seeds but such details are not expressed in the current rule revision. The DNR should use this revision as an opportunity to add detail to the rule so as to impart this important information. (Katherine Young, Sweet Water Organics)*

RESPONSE: The Department agrees with the commenter on the importance of education about compost. However, administrative rules are laws and are not the appropriate place for extensive educational material. We expect to use other outlets such as our website, publications and technical assistance, and collaboration with partners to provide outreach and education on topics such as those suggested by the commenter. The rule, if approved and promulgated, will be accompanied by guidance that will delve into the details of how to compost consistent with the rule and will either provide or refer to information on best composting practices.

4. *COMMENT: We urge the state to reconsider the proposed composting facility requirements that are contained in the proposed rule. The composting of organics of any type other than yard waste requires more stringent regulation to protect the environment. Byproducts from composting food waste and other organics include free liquids, volatile organic compounds, pesticides, herbicides, fertilizers, methane and other emissions, and can cause nuisance conditions such as odors, pathogens and vectors, all of which necessitate increased control measures to protect human health and the environment. Certainly, many exemptions are appropriate for residential composting sites and*

composting at community gardens and other multi-family compost operations utilizing known, predictable feedstocks. But broad exemptions from basic regulatory requirements will result in operational issues and possibly even site failure that could undermine the efforts of local government and industry to advance the overall objective of material diversion. Without appropriate state regulation, in the short run those sites will create environmental risks and public nuisances that will make communities reluctant to permit new composting operations under local zoning authority. In the long run, the availability of low-cost, high-risk sites will prevent investment in larger scale organics technologies that would allow the State to meet its objective of diverting organics without compromising environmental protections. (Lynn Morgan, Waste Management)

COMMENT: *GroundWork USA supports the proposed rule changes, especially for household and small-scale composting. It is important to avoid placing undue restrictions on small scale compost facilities, like community gardens—these have a negligible potential for adverse impacts. (Dave Mangin, GroundWork USA)*

COMMENT: *Victory Garden Initiative, an urban agriculture organization, advocates composting of organic waste at home and decentralized composting, to improve soil in urban areas. Composting is a natural system and not likely to be a source of significant environmental problems. (Gretchen Mead, Victory Garden Initiative)*

RESPONSE: We agree that regulating compost facilities is a balancing act between under- and over-regulation, and we recognize the risk of under-regulated facilities causing nuisances or environmental harm that stigmatizes composting and makes it harder for facilities to obtain permits to operate. This was a key theme discussed with the Technical Advisory Committee during development of the proposed rule revisions. On the other hand, one of the goals of the rule revisions is to make the regulations on compost facilities easier to negotiate, in order to increase the number of small-to-medium-sized facilities throughout the state and provide more generators of organic materials with local options for composting instead of disposal. The proposed rule revisions attempt to find the “sweet spot” in which compost facilities of all sizes are regulated in a manner that is appropriate to their size and potential for environmental impacts, while not choking off development of a robust network of small public and private facilities serving most or all areas of the state. [Note: see also the Department’s responses to Waste Management’s specific recommendations for revisions, below.]

5. COMMENT: *Is there any way to write the rule to eliminate cross referencing back to other areas of the code? When the code references other sections it is difficult to walk through the various “what if” scenarios. (Jeanne Whitish, 2nd Season Recycling)*

RESPONSE: Administrative code drafting style is subject to strict rules published by the Wisconsin Legislative Reference Bureau and Legislative Council. These rules attempt to balance clarity, consistency and economy. Cross references are necessary to avoid constant repetition of code passages. That said, we have tried to minimize the amount of cross-referencing in the rule and to add to cross-references and indication of the subject being referenced.

Definitions

6. COMMENT: *The proposed rule appropriately clarifies commonly used terms and uses language that is much more user-friendly than the current rule. In this way it “teaches” at the same time that it sets standards. (Kata Young, Sweet Water Organics)*

RESPONSE: Thank you for this comment. We worked with our Technical Advisory Committee to modify the tone of the rule, for example by minimizing references to “waste” since we believe the organic materials in question are more properly viewed as resources. We also added definitions,

simplified terms and tried to clarify what compost facility operators need to do to avoid creating environmental problems.

7. COMMENT: *The proposed rule does not mention the potential for invasive plants to be mixed in with compost and for propagules to survive and be spread through use of the compost.* (Kelly Kearns, DNR Endangered Resources Program)

RESPONSE: We have inserted notes into the definitions for “clean chipped wood” and “yard waste” that alert the reader to this issue and refer to ch. NR 40, which regulates the transportation of invasive plants.

Exempt On-farm Composting

8. COMMENT: *The proposed rule would allow farm-based composters to accept mixed organics from off-site sources with limited regulation. Locational criteria would not apply, no license would be required, and the processing of mixed off-site material would occur without State oversight. Currently, these exemptions apply to sites that don't take in any off-site waste other than crop residue or manure from an adjacent farm, yard waste or clean chipped wood. We recommend that the State apply its requirements consistently to all mixed material composting operations regardless of whether or not they occur in tandem with an agricultural composting operation.* (Lynn Morgan, Waste Management)

RESPONSE: The commenter is correct that the proposed rule would distinguish between farm and non-farm composting. The current rule makes similar distinctions: for example, farm crop residue and manure composters (up to 10,000 cubic yards) are not required to obtain a license, while a license is required for non-farm composters using the same materials. The Department believes there is substantially less potential for nuisances and environmental harm from farm composting since farm operations are generally located in relatively less populated areas and have access to heavy equipment and ample high-carbon materials that can be used to abate odors. Conversely, there are limits on farm composters that do not apply to other compost operations: compost produced from farm composting operations must be used for agricultural landspreading on a farm, and cannot be sold for household use. Farm operations that compost manure are also subject to locational criteria and other regulation in NR 151, 243 and ATCP 51.

The proposed rule would continue to require farm composters to adhere to the same environmental protection performance standards (e.g., no detrimental effect on surface waters or groundwater, no significant adverse impact on wetlands) as non-farm composters. Farm composters that accept off-site materials would need to follow the same minimum operational and design standards and recordkeeping requirements as non-farm composters. In addition, we have changed the proposed rule to require that farm composters accepting offsite materials other than yard materials and clean chipped wood are subject to the same locational requirements as comparable non-farm facilities. The intake of off-site organic materials would be limited to 25 percent of total raw materials, and would need to achieve an initial carbon-to-nitrogen ratio of 20:1.

During the development of the rule, the Department carefully considered whether to require licensing of farm compost operations. We concluded that licensing of farm composting would provide little benefit relative to the difficulty of enforcing such a requirement, particularly since we have no indications of problems with composting operations on farms.

Exempt Yard Material Compost Facilities

9. COMMENT: *Our (municipal yard material) compost site is open two days each week from April to December and is attended by one retired gentleman. I fear that unwanted food waste such as meat*

scraps and poultry carcasses would find its way into the compost pile, inviting unwanted pests and posing a potential health risk. The City of Fort Atkinson will not allow food waste to be included at our compost site unless there are drastic changes to our budget and operations. Other sites may benefit from allowing this but Fort Atkinson would not. (Thomas Kramp, City of Fort Atkinson)

RESPONSE: Nothing in the proposed rule revisions would require licensed yard material compost facilities to start accepting food scraps or other new materials. Those operators that are interested in initiating food scrap composting, however, would now have the option of doing so under a new, separate compost license category.

Exempt Source-Separated Compostable Material Compost Facilities

10. COMMENT: *In Fort Atkinson, our compost site is only open two days each week. The introduction of food products to our compost would be overwhelming to our minimal staff. Unwanted food waste such as meat, poultry bones or carcasses as this would invite rodents and other animals that pose a potential health risk. (Tom Kramp, City of Fort Atkinson)*

RESPONSE: There is nothing in the proposed rule revision that would require a compost operation to accept food scraps should they prefer not to.

11. COMMENT: *Under the proposed rule, could a facility have both a licensed exempt (less than 20,000 cubic yards) yard material composting area and a separately licensed exempt (less than 5,000 cubic yards) source separated compostable material area that blends food scraps with additional yard materials? (Jeanne Whitish, 2nd Seasons Recycling)*

RESPONSE: Yes, an operator could have both types of facilities at one location and still qualify for the limited exemptions in the proposed rule. Note that an operator could not have more than one of the same type of facility in the same location as a way of skirting the size limits that qualify a site for the limited exemptions.

All Exempt Compost Facilities

12. COMMENT: *The proposed rule revisions set thresholds that encourage that finished compost product be moved off premises within six months. We support measures that prevent the accumulation of unmarketable product while raw materials continue to be accepted. The six-month marker, however, is problematic in Wisconsin's climate, where composting operations and markets are dramatically influenced by changing seasons. For example, an influx of leaves in autumn may not be processed until green material becomes available in spring, and finished compost may not be marketable late in the season when landscaping customers are scaling back. To accommodate seasonal fluctuations, we recommend that the rule require that beginning in the third year of operation, a composter must have marketed finished product equivalent to at least 60 percent of the raw material accepted three years prior. (Lynn Morgan, Waste Management)*

RESPONSE: The six-month criterion was simply intended to clarify what materials at an exempt compost facility are subject to the maximum cubic yard limitation to qualify for the exemption. The current rule counts all finished compost onsite against the exempt site limits. The proposed rule as presented for public comment would exclude finished compost from the calculation of material present at the site as long as the material was no more than six months old, but would have counted any material more than six months old toward the total material at the site. The change was intended to allow exempt compost operators to weather the seasonal variations in the demand for compost while continuing to accept new materials for processing.

The commenter correctly notes the need to limit the accumulation of unsaleable product, but indicates six months is too short a time to allow site operators to market backlogged product while continuing to accept new inputs. The suggested 60 percent fix appears somewhat arbitrary and impractical to administer or enforce, especially considering most facilities do not have weight scales. Likewise, further discussions with DNR staff have indicated they would have a difficult time judging how long compost has been finished and stored at a facility. The proposed code essentially defines “finished compost” as stabilized and saleable material; this type of material is highly unlikely to cause a problem or create cleanup costs. On that basis, we have chosen to simplify matters by excluding finished compost from counting against an exempt site’s volume limits.

13. COMMENT: *Rules and permits should provide incentives for production of a product. This is especially important in Wisconsin, where the prospect of avoiding a high waste tax guarantees a financial benefit simply for material acceptance. To minimize issues related to material accumulation or high residual levels permits should address processing capacity versus storage to avoid problems with accumulation of unprocessed materials or residuals.* (Lynn Morgan, Waste Management)

RESPONSE: We agree with the commenter’s point that we should avoid creating incentives for simply accumulating waste material without processing it into a product. Yard waste is already banned from Wisconsin landfills, so the amount of the landfill tip fee should not affect the amount of yard materials diverted to composting, and Wisconsin yard material composting sites have not experienced significant nuisance or environmental problems. For other compostable materials like food scraps that might be diverted in increasing quantities due to the proposed rule, the rule also contains a requirement that facilities larger than 50 cubic yards in size that are accepting these materials have a plan of operation approved by the Department; review of this plan will include an examination of processing capacity versus site size and storage capacity to minimize the chance for accumulation of unprocessed materials or residuals.

14. COMMENT: *From a scientific standpoint, studies are just becoming available to help government and industry begin to understand the complexities of byproducts generated and the regulatory requirements that must be in place to avoid environmental impacts. And, regardless of the amount of feedstock or the site size, these byproducts need to be controlled to prevent impacts. Certainly, many exemptions are appropriate for residential composting sites and composting at community gardens and other multi-family compost operations using known, predictable feedstocks. There should be no exemptions for small sites, especially for the sole reason of making organics composting more cost effective and thus, able to be implemented on a broader scale.* (Lynn Morgan, Waste Management)

RESPONSE: Wisconsin’s compost facility rules have long applied a risk-based set of graduated controls tailored to the scale and type of composting being undertaken. The rules are premised on the principle that composting is a beneficial activity that should be subjected to the minimum regulation necessary to prevent environmental problems or nuisance conditions. Small compost facilities simply do not create the same degree of environmental risks as large facilities, and therefore warrant exemptions from some of the more stringent design and operational requirements that are needed at large facilities. For example, it makes little sense to require the submittal of construction documentation or the construction of leachate collection capability for a facility of a few hundred to a few thousand cubic yards’ capacity, especially when the bulk of the material being composted is yard debris.

We have changed the proposed rule’s definition of food residuals and source-separated compostable material to exclude rendering and slaughterhouse wastes, which could be viewed as higher risk for creating nuisance conditions or environmental problems. Generally, however, composting of industrial byproducts is a form of solid waste processing that is not covered by these rule revisions. The rule revisions being proposed at this time apply only to well-understood, commonly composted and predictable organic materials.

Compliance with Environmental Standards

15. COMMENT: *Add a general statement about compliance with groundwater standards.* (Jim Bertolacini, DNR Watershed Management Program)

RESPONSE: All facilities covered under s. NR 502.12 except exempt composting at households must comply with the environmental performance standards in s. NR 502.04, which include a prohibition on causing a detrimental effect on groundwater quality or causing or exacerbating an attainment or exceedance of any preventative action limit or enforcement standard at a point of standards application as defined in ch. NR 140.

16. COMMENT: *In addition to surface waters, add discharges to wetlands.* (Jim Bertolacini, DNR Watershed Management program)

RESPONSE: We have added the requested wording to proposed s. NR 502.12(11)(a).

17. COMMENT: *Indicate that notwithstanding these rules, the Department may require a composting facility to obtain an industrial stormwater discharge permit if non-compliance with the rules results in the discharge of pollutants to waters of the state or if the Department determines that the discharge is a significant contributor of pollutants to the waters of the state.* (Jim Bertolacini, DNR Watershed Management Program)

RESPONSE: This information has been added in the form of a note within s. NR 502.12(11), "Minimum Design Standards for Composting Facilities."

18. COMMENT: *Add a statement that the stormwater pollution prevention plan shall be implemented and updated as needed to remain effective. Remove the reference to Tier 2 facility (NR 216.27 applies to both Tier 1 and Tier 2, so it is not necessary to state this). Remove the reference to NR 216 for one or more acre of land disturbance. Clarify that a construction site storm water permit would still be required for new or expanding sites disturbing one acre or more of land.* (Jim Bertolacini, DNR Watershed Management)

RESPONSE: DNR approval of a plan of operation that includes a stormwater pollution prevention plan requires that the plan be implemented along with all other approved provisions of the plan of operation. Implementation will be ensured through compliance inspections or other enforcement activities. We have added language requiring plan updating to proposed s. NR 502.12(11)(d). We have removed the reference to Tier 2 and have added notes clarifying the need for a construction site storm water permit.

19. COMMENT: *Without further clarification, I don't know what "discernible confined and discrete discharge" means. It almost sounds like I'm not allowed to discharge any quantity of water whatsoever. If I am discharging water to a "gently sloping vegetated area," at what point/distance is this water allowed to channelize, because it will.* (Robert Regan, Dane County Department of Public Works)

RESPONSE: This provision of the proposed rule is intended to allow incidental sheetflow of stormwater off a compost site as long as it is not conveyed in a ditch or gully. Flows so large that they do not remain as sheetflow, but instead channelize by erosion, or that are conveyed through a confined channel, would not be allowed without a WPDES stormwater permit. The ability of a site to maintain sheetflow will depend on soils and vegetation, slope, size of precipitation event and best management practices being used to control pollutant discharges associated with stormwater runoff.

20. COMMENT: *My facility has a pond with a certain design capacity. Am I allowed to discharge water from the pond through a ditch leading off the property if the pond's capacity is exceeded, as this would be considered "confined?" Some clarification or rewording is needed.* (Robert Regan, Dane County Department of Public Works)

RESPONSE: We agree that retention ponds have a design capacity that may be exceeded, and discharges may be necessary during very large events. This would be allowable. We have also clarified that a facility may treat storm water onsite and discharge it under a WPDES permit.

21. COMMENT: *Add a statement about the installation of other best management practices in needed to control pollutant discharges.* (Jim Bertolacini, DNR Watershed Management Program)

RESPONSE: We have added this statement in proposed NR 502.12(11)(b).

22. COMMENT: *We are keenly aware of the environmental risk posed by large-scale aerobic processing facilities. We encourage the DNR to maintain strict regulations on leachate and runoff to protect groundwater and natural resources, as is currently proposed for facilities over 5,000 cy.* (Rick Eilertson, City of Fitchburg)

RESPONSE: We agree with the comment and the concept that the risk of these facilities is proportional to their scale.

23. COMMENT: *Broad exemptions from basic regulatory requirements will result in operational issues and possibly even site failure that could undermine the efforts of local government and industry to advance the overall objective of material diversion. As drafted, for instance, the rule will create a strong incentive for the creation of multiple small sites that will operate in close proximity to lakes, rivers and other sensitive resources without basic stormwater controls and under virtually no state oversight. Without appropriate state regulation, in the short run those sites will unnecessarily create environmental risks and public nuisances that will make communities reluctant to permit new composting operations under local zoning authority. In the long run, the availability of low-cost, high-risk sites will prevent investment in larger scale organics technologies that would allow the state to meet its objective of diverting organics, but without compromising environmental protections.* (Lynn Morgan, Waste Management)

RESPONSE: The proposed code follows the premise of the existing code in adopting a gradational approach to regulating compost sites based on size and the nature of the material being processed: the larger the site or the more complicated the feedstocks, the greater the risk and the level of regulation applied. This approach has worked well to date, and the Department feels comfortable expanding the range of well-understood, uncontaminated materials that can be composted under this rule. The proposed rule would use the same setback distances to lakes, rivers and other sensitive resources as the current rule, and would increase both the stormwater requirements and state oversight in the form of plan reviews for source-separated compostable material sites as well as recordkeeping and reporting. The Department agrees with the importance of preventing nuisances and avoiding alienating local authorities, but, based on experience, disagrees with the commenter that small, localized and low-cost composting facilities necessarily create untenable risks and public nuisances.

24. COMMENT: *The draft rule would establish two extremes for control of run-off. On the one hand, sites handling more than 20,000 cubic yards (cy) of yard materials or 5,000 cy of mixed organics would be required to collect, test and use or treat run-off that contacts raw materials, active composting or finished compost. In essence, these requirements mirror those that sanitary landfills follow for leachate, liquids that have come in contact with mixed waste streams. For sites handling more than 20,000 cy of yard materials or 500 cy of mixed organics, current rules apply this requirement to "all run-off that contacts waste" and don't explicitly include finished compost.*

On the other hand, the draft rule would exempt all other compost sites from collecting, testing or treating their run-off. Instead, they would be required to prevent "...erosion and any discernible confined and discrete discharge of liquids or suspended solids to surface water from the composting area." This would constitute the performance standard for mixed sites handling >50 cy and <5,000 cy, yard waste sites <20,000 cy, and on-site composting of farm crop residue, animal carcasses and manure regardless of size. Current rules require directing run-off to a sloped area capable of preventing of erosion and surface water discharge, regardless of whether discernible/discrete.

We recommend that the rule instead apply a uniform runoff standard to all yard material sites greater than 5,000 cy and all mixed organics sites that accept material generated off premises. The standard should be consistent with existing stormwater requirements that apply to parking lots, outdoor storage at MRFs, and a host of other developed locations. (Lynn Morgan, Waste Management)

RESPONSE: Both the current rule and the proposed rule revisions are structured to maintain the current graduated set of requirements on compost facilities based on size and risk of harm. We don't view the runoff control provisions as extreme in either direction, but rather we believe they are set at levels that are appropriate to the risk of sites that vary widely in size and the types of material accepted. We also don't agree that stormwater requirements for compost sites need to be the same as for parking lots and industrial locations capable of generating much larger and more concentrated flows in response to rain events. Compost windrows are capable of absorbing considerable moisture.

See below for responses to Waste Management's specific recommendations regarding the rule language, some of which we have accepted.

COMMENT: *1. Apply requirements similar to those landfills now follow under NR 504.09. At all sites, design and operate to minimize erosion, impacts on adjacent property, and run-off contacting wastes. (WM)*

RESPONSE: We don't believe a one-size-fits-all approach to regulating stormwater is appropriate for compost facilities, which vary widely in size, materials and risk. However, the intent of the revised rule is to minimize erosion, impacts on adjacent property and runoff contacting wastes without stifling the responsible development of compost facilities in Wisconsin.

COMMENT: *2. Repeal the requirement to manage run-off as leachate. Instead, at yard waste sites >5,000 cy and any mixed material site accepting off-site matter, require collection of run-off in sediment control structures and testing prior to discharge to area waterways. Apply only to run-off that contacts raw materials, not finished product. (WM)*

RESPONSE: Under the current and proposed rules, runoff is required to be managed as leachate only at non-exempt facilities, i.e., the handful of facilities with greater than 20,000 cy of yard materials or more than 5,000 cy of source-separated compostable materials, or at farms that accept offsite material and exceed 10,000 cy capacity. All other facilities are already required to use run-on controls, containment ditches and retention basins to minimize erosion and prevent discharge from the composting area. In consideration of this comment, however, we have changed the proposed rule to clarify that the operator of a non-exempt compost facility may conduct onsite treatment and may discharge collected leachate and runoff to surface waters under the terms of a WPDES wastewater discharge permit.

We agree that runoff contacting finished compost, which is defined in the rule as compost that has reached its stability and maturity endpoints, is not likely to pick up significant contaminants and does not need to be handled as leachate. We have changed the proposed rule accordingly.

COMMENT: 3. Maintain the current standard requiring prevention of discharge to surface waters. Do not deem discharges acceptable simply because they are diffuse and not discernible. (WM)

RESPONSE: Sheetflow discharges of incidental amounts of stormwater that are so low in quantity that they infiltrate or that do not channelize or erode the ground surface are explicitly exempted from stormwater control regulation under s. 283.33, Stats. This is commonly allowed under wastewater regulations for low-strength leachate and runoff mixtures from storage of organic materials. We agree that surface waters should be protected from impacts of all stormwater flows, and have added language in proposed s. NR 502.12(11)(b) requiring the installation of stormwater best management practices to control pollutant discharges from stormwater runoff.

COMMENT: 4. Provide for enforcement of run-off requirements. Require mixed sites >500 cy and yard waste sites >20,000 cy to conduct run-off control inspections under NR 502.12(15)(a)4. (WM)

RESPONSE: We agree that routine facility inspections to assess the effectiveness of stormwater controls are appropriate, and that the owner should take action to improve stormwater management where controls are inadequate. We have modified the proposed rule to extend the inspection and corrective action requirement to exempt yard material and mixed material facilities and to farm compost operations that accept off-site material inputs.

COMMENT: 5. Support the DNR's proposal to no longer require low permeability pads for finished compost and low-risk feedstocks such as leaves and chipped wood. (WM)

RESPONSE: We appreciate the support for this proposed change.

Locational Restrictions

25. *COMMENT: Under the draft rule, mixed materials sites handling 50 to 5,000 cy would not be allowed within 250' of a navigable lake, pond or flowage and within 100' of someone else's land. Currently, mixed sites handling 50 to 500 cy must be at least 250' from navigable waters and 100' from neighboring property. We recommend that the Department retain the setbacks required under existing law for mixed sites handling 50 to 5,000 cy. (Lynn Morgan, Waste Management)*

RESPONSE: To clarify, the proposed rule retains the distinction between exempt and non-exempt facilities with regard to the required setbacks from neighbors and ponds/lakes/flowages. Exempt facilities must maintain setbacks of 100 feet and 250 feet, respectively. Non-exempt facilities, which tend to be much larger, must maintain setbacks of 250 feet and 500 feet, respectively. The commenter may have intended to suggest that mixed sites be subject to the larger setbacks. We believe this is impractical for small compost facilities because of the significant amount of land that would be required to compost a relatively small amount of source-separated compostable material. It would make it impossible for many small composting facilities to accept food scraps for composting.

Note also that compost facilities are generally subject to local zoning restrictions that control the location of facilities.

Licensing and Plan of Operation

26. *COMMENT: As drafted, the rule would exempt most composting facilities from the requirement to obtain a license and prepare a plan of operation. Without those minimal controls, however, the State will have virtually no control over composting activity, and only limited knowledge of where and how it is occurring and whether State environmental standards are upheld. We urge that licensing and a plan of operation be required for any site handling more than 5,000 cy of yard materials, and for any*

site handling more than 500 cy of mixed matter received from off-site sources. (Lynn Morgan, Waste Management)

RESPONSE: Licensing is and would continue to be required for most composting facilities: all yard material and source-separated compostable material facilities, whether exempt or non-exempt. This provides the department with some knowledge of how many sites there are and where they are located. The only sites that are exempt from licensing, besides households and those less than 50 cubic yards in size, are exempt on-farm sites. The department does not believe these sites need to be licensed as composting is an inherent and incidental part of farming. Compost operations at farms with WPDES permits would be covered under those permits.

The current and proposed rules waive a plan of operation for yard material sites up to 20,000 cubic yards in size, based on the low level of risk associated with these facilities. We have experienced very few problems with these facilities and do not believe requiring a plan of operation review would add value, particularly in light of the resources that would be required. The proposed rule, however, does recognize that composting of mixed food and other source-separated compostable materials is relatively new in Wisconsin and would therefore require all mixed material sites greater than 50 cubic yards in size, except those on farms, to submit a plan of operation. On-site farm composters accepting offsite source-separated compostable material would not need to submit a plan of operation because of the comparatively low risk these sites represent since they would be located on farms, the compost must be used on farms.

Financial Assurance

27. COMMENT: *Both the potential for environmental impacts and history of the composting industry indicate that some form of Financial Assurance to cover potential contingency actions and closure liabilities is needed to protect the State from liability. Given the fledgling nature of the industry and low capital requirements for market entry, the likelihood of new market entrants that may not be properly capitalized, have the expertise or understanding of either the waste system or the technical background required to be successful, we believe financial assurance is a necessary and prudent requirement. Financial Assurance should be required to ensure that site closure is accomplished and any impacts can be mitigated in the event of operator insolvency.* (Lynn Morgan, Waste Management)

RESPONSE: The current regulations require financial assurance for the largest compost facilities, i.e., yard material facilities over 40,000 cubic yards and vegetable food residuals above 1,000 cubic yards. The proposed rule would maintain the yard material requirement and require financial assurance for sites with over 10,000 cubic yards of non-yard source-separated compostable material and sites with more than 5,000 cubic yards of food residuals. In addition, s. NR 502.04(6) provides that the Department may require financial responsibility for other facilities for which a plan is required to be submitted, which would encompass yard material sites down to 20,000 cubic yards and all source-separated compostable material sites at the Department's discretion.

The Department does not expect a wave of new entrants to the compost marketplace as a result of the proposed rule. We do expect some existing operators to consider expanding the types of materials they accept for composting. Most compost facilities are publicly owned yard material facilities where there is very little risk of insolvency and site abandonment. The costs of cleaning up an abandoned private site would likely be relatively low, since compost and typical raw materials either have value to other operators, or could likely be managed through landspreading on nearby agricultural fields.

The Department believes that the existing thresholds for requiring financial assurance for compost facilities have proved adequate and are proportional to the relatively low risk these facilities cause. Additionally, one of the Department's goals in this rulemaking is to maintain low barriers to market

entry for small compost operations, consistent with the environmental protections found in other parts of the rule.

Operational Standards

28. COMMENT: *Wisconsin's \$13/ton waste tax creates a strong financial incentive to exclude items from the MSW waste stream and direct them to these facilities. As a result, WM suggests that incoming industrial feedstocks be initially tested or screened and repeated on a regular basis to ensure feedstock quality. We also suggest that these procedures be detailed in a feedstock screening plan to be submitted as part of facility permitting.* (Lynn Morgan, Waste Management)

RESPONSE: The Department believes the testing/screening of incoming raw materials is appropriate for larger facilities. Provisions for testing and screening form part of the plan of operation required of non-exempt composting facilities under s. NR 502.12(13). For smaller facilities, screening is required in the general operational standards but testing is not. The track record shows that these facilities generally have the ability and the motivation to control the quality of inputs to the process.

The record of peer-reviewed research strongly supports that the composting of organics of any type, other than yard waste, requires more stringent regulation to protect the environment. While food waste and other organics may initially seem like a fairly innocuous feedstock, the byproducts from composting these materials include free liquids, volatile organic compounds (VOCs), pesticides, herbicides, fertilizers, methane and other emissions, and can cause nuisance conditions such as odors, pathogens, and vectors, all of which necessitate increased control measures to protect human health and the environment. (Lynn Morgan, Waste Management)

RESPONSE: The Department, in collaboration with the technical advisory committee, has strived to find the appropriate level of regulatory stringency for the variety of compost facilities covered by the proposed rule. The proposed rule expands the allowable feedstocks that can be processed under a composting license and augments several regulatory provisions accordingly to ensure continued protection of human health and the environment. The proposed rule would require plan review, recordkeeping and reporting for the exempt source-separated compostable material facilities that are the focus of this comment, would strengthen operational requirements for all facilities, and would bring stormwater management requirements in line with modern stormwater rules to increase protection of surface water and groundwater.

29. COMMENT: *While the proposed rule would raise the minimum carbon to nitrogen ratio from 12:1 to 20:1, reflecting a common C:N ratio standard, the ratio would potentially inhibit the production of nutrient-specific composting piles for situations requiring a wide C:N ratio. For instance, composts suitable for woody-forest applications require a higher mycorrhizal population and wider C:N ratio. A minimum for this type of situation is 30:1. For most leafy greens and residential urban gardens, a compost comprised of a balanced bacterial:fungal population would suffice and a C:N ratio of 15:1 is more appropriate. The proposed rule should allow for various uses of composted material and not inhibit composting through a "magic C:N ratio."* (Katherine Young, Sweet Water Organics)

RESPONSE: The operational standards specify a minimum initial C:N ratio of 20:1, but the ratio may begin higher than that and also may fluctuate during composting to accommodate various feedstocks and final uses of the compost.

30. COMMENT: *The Waukesha County Department of Parks and Land Use requests a revision of the language contained in NR 502.12(10)(b) "Raw materials in compostable bags shall be processed such that the contents of the bags are exposed to air within 24 hours of receipt at the facility." In Waukesha County, haulers pick up yard waste debris in paper bags and boxes and deliver the materials to the county compost site, where processing machinery is brought in periodically by the*

contractor. We propose that if the materials in compostable bags are yard debris only, there be a longer period of time to process, so long as there are no odor complaints. This would allow more flexibility to consolidate sufficient yard debris for processing in a cost-efficient manner. (Karen Fiedler, Waukesha County).

RESPONSE: Our experience is that grass clippings and other high-nitrogen materials begin to decompose rapidly and often create strong nuisance odors unless exposed to air. Leaves and brush do not exhibit this behavior. We have altered the proposed rule to allow leaves and brush to remain in compostable bags longer than 24 hours.

Reporting Requirements

31. COMMENT: *I feel this is an unnecessary reporting requirement. Our facility does not have the means or the man power to get scale weights for all the material that comes into our facility. Some of the information is already submitted on recycle grant applications. The process of generating accurate information would require a large expenditure and would be a burden for local government as well as the DNR. (Dick Lupton, City of Merrill Street Department)*

COMMENT: *The data in the report would be nice for the WDNR and the compost sites to have but most compost sites do not have a scale and estimates of quantities will be a guess for many facilities. Is data of questionable validity really worth collecting? Will the WDNR be providing bulk density suggestions for converting the yardage estimates into tons? Would it be more beneficial to report yardage estimates where scales are not available? (Robert Regan, Dane County Department of Public Works)*

RESPONSE: The reporting requirement would be very minimal. Facilities would only have to report amounts of material taken in and moved offsite. The amount could be reported as a weight or as a volume, and could be estimated. The purpose of the data collection is to be able to provide a reasonable estimate of the amount of organic material being diverted from landfilling statewide. Without some measurement, we are unable to evaluate the performance of the program. Metrics are fundamental for any enterprise. We have taken great care to minimize the reporting burden by combining the reporting with the annual license renewal, so there are no extra forms for operators to fill out.

32. COMMENT: *The annual reporting requirement includes lab results but it is confusing because many sites would not be required to do testing. (Kathy Powell)*

RESPONSE: We have clarified that both compost and leachate test results need to be submitted to the department, and that the submittal of results is only required for the testing that is required in this section.

Voluntary Compost Quality Standards

33. COMMENT: *The City of Milwaukee supports the voluntary quality standards for finished compost. This will assist in differentiating high quality compost products in the marketplace. Compost producers meeting the quality standards may find it easier to market their products for higher prices, potentially increasing the financial viability of composting operations. This in turn may draw more organic materials into compost operations and away from landfills, where their breakdown contributes to methane production. (Rick Meyers, City of Milwaukee Department of Public Works)*

COMMENT: *Current producers of high quality compost have asked for state compost standards. Meeting those standards gives them an opportunity to verify that quality to customers. The compost rule revisions address this by establishing numerical limits for several parameters. Meeting these*

limits would qualify the compost to be "Class A Compost." Having these standards would help consumers make more educated compost purchases and encourage other compost producers to improve their compost. Ultimately this optional category of compost could further increase demand and diversion of organics from landfills. (Kathy Powell).

RESPONSE: The Department agrees with these comments. To ensure that the numerical standards for class A compost are appropriate, we have consulted recent data from the US Geological Survey on background soil concentrations of arsenic in Wisconsin soils, and have adjusted the arsenic value slightly downwards as a result.

Comments from Legislative Council Rules Clearinghouse

34. COMMENT: *The LCRC made several comments regarding (1) form, style and placement in administrative code, and (2) clarity, punctuation, grammar and use of plain language. (WCLRC)*

RESPONSE: We have accepted these comments and have changed the proposed rule language accordingly. For LCRC comment 2a, we have eliminated the identification of s. 289.30, Stats., as a statute interpreted by the proposed rule.

ATTACHMENT 2: REPORT FORMAT

State of Wisconsin Department of Natural Resources BUREAU OF WASTE AND MATERIALS MANAGEMENT LICENSE RENEWAL APPLICATION FORM

Form 4400-115 04-07 N594

*** FORM MUST BE RETURNED BY May 13th ***

*** NO LICENSE FEE DUE NOW ***

Return To: KATHY WARREN
DNR-SOUTH CENTRAL REGION
3911 FISH HATCHERY RD
FITCHBURG, WI 53711-5397

For Questions Call: KATHY WARREN
(608) 275-3289
License # 4033 FID # 111041810

SC 11

I. Facility Information:

(920) 992-5454
RIO VIL
ROBERT LANG, DIR PUB WKS
RIO VILLAGE OF
PO BOX 276
RIO, WI 53960

Enter Corrections Below:

Telephone No:
Facility Name:
Contact/Title:
Licensee:
Mailing Address:

Email:

SW Yard Waste Composting <20,000 Cu Yd

The period of this license is OCTOBER 1, 2011 through SEPTEMBER 30, 2012.

II. Application is hereby made for license renewal to operate a facility or transportation service under Chs. NR 500-555 or NR 660-679, Wis Adm. Code, in compliance with s.289.31 Stats, and/or 291.23 Stats, or 291.25 Stats.

The department will not consider your application unless it is completed and signed pursuant to Chs NR 500-555 or NR 660-679 Wis. Adm Code.

Check here if the above named facility does not intend to renew this license. Then complete Section III and return to the DNR office shown above. If you are applying for renewal, complete or correct the information below: (use additional sheets if needed):

1. Location of Facility: SW 1/4 OF SE 1/4 OF SECTION 36, T12, R10E, Columbia County
Address: HWY 16 WEST OF RIO
Township/City: LOWVILLE, TOWN OF
STATE OF WISCONSIN
2. Waste Types Handled:
W070- BARK/BRUSH W800- YARD
3. Service Areas: VILLAGE OF RIO

NEW QUESTIONS

For the following questions, you may use either tons or cubic yards. Estimated values are acceptable. (Note: 1 dump truck typically equals about 10 cubic yards)

4. For calendar year 2011, please indicate the approximate amount of material accepted at your composting facility:

	<u>Tons</u>	or	<u>Cubic Yards</u>
Yard Materials	_____		_____
Food Scraps	_____		_____
Food Processing Residuals	_____		_____
Crop Residues	_____		_____
Other	_____		_____

5. For calendar year 2011, about how much finished compost did you sell, use or give away?

_____ tons or _____ cubic yards

6. How much of the material in question 5 was sold or distributed as "Class A Compost" as defined in NR 502.12(16), Wis. Adm. Code?

_____ tons or _____ cubic yards

III. I hereby certify that the information provided is true and accurate to the best of my knowledge and belief.

Signature _____

Date _____

ADMINISTRATIVE RULES – FISCAL ESTIMATE

1. Fiscal Estimate Version

Original Updated Corrected

2. Administrative Rule Chapter Title and Number

NR 502 Solid waste storage, transportation, transfer, incineration, air curtain destructors, etc.

3. Subject

Regulation of composting facilities and compost quality standards

4. State Fiscal Effect:

<input type="checkbox"/> No Fiscal Effect	<input type="checkbox"/> Increase Existing Revenues	<input type="checkbox"/> Increase Costs
<input type="checkbox"/> Indeterminate	<input checked="" type="checkbox"/> Decrease Existing Revenues	<input type="checkbox"/> Yes <input type="checkbox"/> No May be possible to absorb within agency's budget.
		<input type="checkbox"/> Decrease Costs

5. Fund Sources Affected:

GPR FED PRO PRS SEG SEG-S

6. Affected Ch. 20, Stats. Appropriations:

7. Local Government Fiscal Effect:

<input type="checkbox"/> No Fiscal Effect	<input type="checkbox"/> Increase Revenues	<input type="checkbox"/> Increase Costs
<input checked="" type="checkbox"/> Indeterminate	<input type="checkbox"/> Decrease Revenues	<input type="checkbox"/> Decrease Costs

8. Local Government Units Affected:

Towns Villages Cities Counties School Districts WTCS Districts Others:

9. Private Sector Fiscal Effect (small businesses only):

<input type="checkbox"/> No Fiscal Effect	<input checked="" type="checkbox"/> Increase Revenues	<input checked="" type="checkbox"/> Increase Costs
<input type="checkbox"/> Indeterminate	<input type="checkbox"/> Decrease Revenues	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No May have significant economic impact on a substantial number of small businesses
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No May have significant economic impact on a substantial number of small businesses	<input type="checkbox"/> Decrease Costs

10. Types of Small Businesses Affected:

Compost facility operators; farmers who compost; indirect effects to waste haulers, food waste generators

11. Fiscal Analysis Summary

The proposed rule revisions would:

- (1) make it easier to compost food scraps and certain other compostable materials without having to obtain a solid waste processing license from the Department, and
- (2) provide voluntary standards for compost producers to use if they wish to make and market a higher quality compost from source-separated compostable materials.

STATE REVENUES: One of the goals of the rule revisions is to promote more diversion of compostable food, paper and other materials from landfills. This would have a negative impact on revenues from state solid waste tonnage fes. Current fees total \$13/ton. A recent study of the amount of food material disposed of in landfills

concluded that in 2009, some 456,000 tons of food scraps were landfilled. If the new rules resulted in the diversion of five percent of this material to composting by year 3 of the new rule, the result would be a revenue decrease of 22,800 tons x \$13/ton = \$296,000. Five percent reflects our belief that the proposed rule could have a noticeable impact on food diversion, but is unlikely to have a major impact without other factors being addressed such as the difficulty of organized collection of residential food and a significant increase in the demand for compost. Composting volumes are also driven by business decisions by individual compost facility operators and generators of compostable material such as institutions, restaurants and grocery stores. An additional future factor will be the choice between composting and anaerobic digestion for the processing of food scraps. Therefore, we believe five percent is an achievable reduction in landfill tonnage to project as a direct result of these proposed rule changes.

The Department does not charge review fees for compost facilities, and this would not change under the proposed rules, so no changes in program revenues are expected.

STATE COSTS: We do not anticipate significant changes in staff workload as a result of the proposed rules.

LOCAL GOVERNMENT EFFECTS: The proposed rule includes a minimal amount of required annual reporting on a DNR form for certain compost facility operators. Some local governments operate compost facilities, particularly for yard residuals collected from residents. The reporting is estimated to require one hour per year. Assuming there are approximately 150 local government compost facilities, @\$50/hour, we estimate aggregate local government costs totaling \$7,500 per year statewide for reporting. However, the ability of local government compost facilities to accept food residuals from local generators such as schools, university campuses, hospitals, institutions and local businesses would likely offset these costs in the aggregate, through fees and reduced waste hauling costs. It should be noted that many local government compost operators may not choose to accept additional materials beyond the yard residuals they already accept.

Some local governments may opt to produce Class A compost as defined and authorized under the proposed rule revisions. This option will require periodic testing of compost product. We estimate no more than 10 local governments will choose to produce Class A compost. Testing costs would total \$150/test x 4 tests/year x 10 producers = \$6,000. However, these costs should be more than offset by increased revenues to the compost producers because Class A compost will demand a higher price in the marketplace.

12. Long-Range Fiscal Implications

We anticipate that demand for organic materials, and interest by generators in diverting organics from landfills, will continue to increase in the long run with or without the proposed rule changes. Therefore the marginal fiscal impact of this rule would be minimal.

13. Name - Prepared by Brad Wolbert - WA/5	Telephone Number 608-264-6286	Date July 18, 2011
14. Name - Analyst Reviewer <i>JAR Witz</i>	Telephone Number <i>608-266-2159</i>	Date <i>8/16/2011</i>
Signature - Secretary or Designee <i>[Signature]</i>	Telephone Number <i>608-266-2754</i>	Date <i>8/16/2011</i>

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ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING, RENUMBERING AND AMENDING, AMENDING,
REPEALING AND RECREATING, AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to **repeal** NR 502.12(1)(a) to (f), (8)(a)4. and 6. and (9); **renumber** NR 502.12(8)(a)5., 7. and 8.; to **renumber and amend** NR 502.12(4)(e)3.(note); to **amend** NR 500.03(45), (185), (253) and (262), NR 502.12(title), (1)(intro.) and (note), (2), (3)(title), (intro.) and (a), (4)(title), (intro.), (c), (e)(intro.), (5)(title), (intro.), (b) to (e) and (f)(intro.), 1. and 2., (6)(title), (intro.), (b), (c) and (e), (7)(title), (intro.), (a) to (c), (8)(title) and (a)(intro.), (10)(intro.) and (a) to (e), (h)1. and 3. and (j)(note), (11)(intro.), (a) and (b), (12)(a) and (b), (13)(title), (intro.), (b), (e), (f), (g), (h) and (k), (14)(a) and NR 518.04(1)(intro.), (b) and (i); to **repeal and recreate** NR 502.12(4)(e)1 through 3., (7)(e) and (f), (8)(b), (11)(d), (15), (table 1) and (table 2); and to **create** NR 500.03(20r), (29), (30g), (30r), (44m), (86m), (88m), (155m), (219m), (253m) and (262)(note), (4)(e)4., (8)(c), (11)(d)(note), (11)(e) and (note), (13)(m), (n), (o) and (p), and (16) relating to composting of solid waste.

WA-33-10

Analysis prepared by the Department of Natural Resources

1. Statutes Interpreted

ss. 287.05, 289.07 and 289.31(1), Stats.

2. Statutory Authority

ss. 227.11; 289.05(1); 289.06(1), (3) and (5); and 289.43(4), (5) and (8), Stats.

3. Explanation of Agency Authority to Promulgate the Proposed Rule under the Statutory Authority

Section 227.11, Stats., confers general agency rule-making authority. Sections 289.05, 289.06 and 289.07, Stats., assign the duty and provide the authority to the Department to promulgate rules implementing ch. 289, Stats. Section 289.43, Stats., gives the Department the authority to specify by rule types of solid waste facilities that are not required to be licensed under ss. 289.21 to 289.32 or types of solid waste that need not be disposed of at a licensed solid waste disposal facility.

4. Related Rule or Statute

None

5. Plain Language Analysis of the Proposed Rule

Composting is regulated as a form of solid waste processing that converts decomposable organic materials to a substance with many beneficial uses and avoids the adverse environmental impacts of landfill disposal or incineration. The proposed rule revisions would (1) expand the types and quantities of decomposable organic materials that could be composted with minimal regulation, and (2) provide a voluntary set of quality standards for certain finished compost products,

allowing commercial and municipal composters to distinguish their high-quality compost products in the marketplace.

6. Summary of and Preliminary Comparison of Existing or Proposed Federal Regulations Intended to Address the Activity to be Regulated by the Proposed Rule

None.

7. Comparison of Similar Rules in Adjacent States (MN, IA, IL and MI)

Adjacent states' compost regulations have a number of basic similarities to those of Wisconsin, but vary significantly from each other in their details. Note that Michigan, Minnesota and Illinois, like Wisconsin, are in various stages of revising their composting regulations, in large part as a response to burgeoning interest among food residuals generators nationwide in diverting their material from landfills. Iowa's compost regulations are relatively new, and Iowa's DNR is considering proposals to revise them to facilitate larger-scale food residuals composting.

Minnesota regulations establish two categories of composting facilities: (a) yard material facilities, which are subject to a permit-by-rule system similar in effect to Wisconsin's exemption for yard material compost sites with less than 20,000 cubic yards' capacity, and (b) facilities for composting all other materials, which must obtain individual permits. Minnesota requires all composting facilities to file an annual report with the state regulatory agency. Facilities accepting decomposable material other than yard residuals for composting are subject to design and other permit requirements that were developed for municipal solid waste composting. These have been criticized as being overly strict when applied to materials like food scraps and non-recyclable paper—hence the effort underway to revise the composting rules to establish a “middle” category of composting facility that would avoid some of the current regulatory impediments to composting food and other source-separated decomposable materials. For non-yard facilities, Minnesota's rules require testing of the compost product, and imposes quality standards under a classification system that distinguishes between high quality (Class I) compost suitable for unrestricted use, and Class II compost, the use of which is restricted. The metals standards for the two compost classes are based on federal standards for landspreading sewage sludge, or biosolids, contained in Part 503 of the federal Clean Water Act. Minnesota does apply a more stringent limit to mercury content as well as a PCB limit.

In **Illinois**, composting is relatively highly restricted by the state. Composting facilities must be individually permitted similar to facilities such as landfills, except for facilities at which landscape material is composted and used on an agricultural crop farm. The practical implication of this regulatory system is that food scrap composting is not economically feasible in Illinois. Illinois legislators have recently proposed bills to remove the regulatory barriers to food scrap composting.

In **Michigan**, the composting rules are being revised to align composting of food scraps and other decomposable materials with composting of yard residuals. Current Michigan rules do not include general standards for composting materials other than yard residuals, and composters of more than 500 cubic yards are required to obtain a solid waste processing permit. The exception to this requirement is food scraps, which, because they are not considered solid waste in Michigan, are not subject to any composting requirements. In practice, Michigan has very few composting sites other than those for yard residuals in part because local authorities are hesitant to issue permits for food scrap composting in the absence of state rules. Michigan's proposed rules would allow source-separated compostable materials similar to Wisconsin's proposed

definition to be composted with yard residuals without plan review, a site-specific permit or an overall limit on the size of the site. The rule would impose operational standards on composting facilities that are comparable to Wisconsin's, with more stringent standards for liners and for control of liquids. Farm sites would be subject to fewer restrictions so long as they were not operating as a large commercial compost operation. The proposed compost facility standards include annual reporting requirements and requirements for testing and labeling of compost products, but do not impose numerical standards for chemical constituents in general-use composts made from yard residuals or source-separated compostable materials.

Iowa's compost regulations establish a tiered system similar to Wisconsin's in concept, with exemptions for small, on-premises and agricultural sites, a permit-by-rule provision for yard residual composting facilities, and an individual permit system for larger composting facilities accepting materials other than yard residuals. Permit-by-rule facilities as well as permitted facilities are required to report volumes annually. Iowa allows permit-by-rule composting of mixed food and yard materials up to 2 tons per week, as well as unlimited quantities of yard residuals and on-farm ag materials. Permit-by-rule and permitted facilities have operational and design requirements comparable to those in Wisconsin for exempt and non-exempt facilities, respectively. Compost from permitted facilities must be tested for pathogens and metals, and meet standards equivalent to federal Part 503 biosolids standards, in order to be applied to land or marketed. Permitted facilities receiving more than 5,000 cubic yards of feedstock annually are subject to financial assurance requirements.

8. Summary of the Factual Data and Analysis Methodologies that the Agency Used in Support of the Proposed Rule and How Any Related Findings Support the Regulatory Approach Chosen for the Proposed Rules

The Department developed the proposed rule in response to a petition for rulemaking brought by composters and recyclers through the Associated Recyclers of Wisconsin (AROW). To ensure sound and informed technical and policy analysis, the Department formed a technical advisory committee composed of stakeholders representing municipal and commercial composters, the University of Wisconsin, AROW, the environmental community, the Wisconsin Department of Transportation (a potential large-scale user of compost) and the Wisconsin Department of Agriculture, Trade and Consumer Protection. Department staff also consulted with a number of other external interested parties from municipal government, the waste disposal industry, compostable materials generators and other groups. Staff performed an extensive comparison of compost regulations and compost quality standards in other states, Canada and Europe, and reviewed the development of the current federal risk-based metals limits for biosolids.

9. Any Analysis and Supporting Documentation that the Agency Used in Support of the Determination of the Proposed Rule's Effect on Small Business

Small businesses were the driving force behind the petition for rulemaking that prompted the Department to develop these rules. The Department consulted directly with small businesses through the technical advisory committee during the development of the proposed rule revisions, and also worked closely with staff of the University of Wisconsin's Solid & Hazardous Waste Education Center, who are familiar with the concerns of small composting businesses and compostable materials generators. After the proposed rule revisions were drafted, the Department solicited input from the community of small businesses connected with the composting industry. Many of the comments received during the public comment period came from small businesses with a connection to composting. The Department also consulted with representatives of major agricultural community interest groups, many of whose members are small businesses.

10. Anticipated Cost Incurred by the Private Sector

Private sector economic impacts from the proposed rule revisions are expected to be neutral to positive. The proposed rules do not require generators of compostable materials to compost or to alter their current arrangements for waste disposal. However, many generators of compostable materials, including small-to-medium size groceries and large national food retailers, hospitals, event sponsors, restaurants and institutions, have encountered difficulties finding an outlet for diverting food scraps from landfill disposal. The proposed rule addresses this need. In facilitating the development of composting businesses and infrastructure, the proposed rule would provide generators of organic residuals with additional outlets for their unwanted materials; some of these options might cost less than landfill disposal. These generators believe it is in their long-term business interests to divert organic materials from landfilling.

Composters should benefit from being able to accept additional materials into their operations without complex permit requirements. Composters that choose to make Class A compost as defined under the proposed rule may incur additional costs for testing, although some of these composters already pursue similar testing on their own initiative. Private sector composters may also incur minor increased costs for recordkeeping, although these costs may be mitigated by (1) the operational utility of the data that they will be generating, and (2) the larger array of materials that their facilities can accept under the rule while maintaining a relatively low level of regulatory oversight. Costs to comply with the reporting requirements in the proposed rule should be negligible, as the Department intends to adapt the existing one-page license renewal form to obtain the desired information.

Waste hauling companies should still be able to enter into contracts and perform work hauling food and other compostable materials, even if the destination of those materials changes from the landfill to a composting facility. Waste disposal companies have expressed interest in operating their own compost facilities to accept yard and food materials, and several facilities in Wisconsin have already commenced operations. The economics of these waste disposal company activities are not clear, but the costs of operating a small compost facility are likely outweighed by the benefits to the landfill facility of the compost that is being produced to serve as topsoil, cover soils, or a marketable product.

11. Effect on Small Business

The proposed rule revisions are expected to have a small and generally positive impact on small businesses. Small businesses potentially affected by the proposed rule revisions include commercial composters, farmers that compost material brought in from offsite, small businesses that generate food and other compostable material, and small waste hauling businesses.

The rule does not mandate composting. It would simply make it easier for commercial and municipal composters as well as farmers to accept a variety of source-separated compostable materials, which may enable them to expand their businesses and find new customers. Some composters, such as those choosing to produce Class A compost, would have to comply with additional regulations regarding product testing. Most commercial and municipal composters would need to submit an annual estimate of the amount of compost they produce. This reporting requirement centers on the minimum of basic and readily available information needed by the agency to quantify and track the growth in composting activity in Wisconsin.

Small waste hauling businesses may see changes or increases in their businesses if source-separation of organic materials becomes more commonplace. Food scrap generators and other small businesses generating compostable materials may benefit from having a broader choice of options for managing their unwanted organic materials. Keeping organic materials separate from the waste stream may require changes in hauling contracts for those generators that choose to send their material to be composted, and less frequent pickup of non-putrescible material would partly offset the additional cost associated with separate organics pickup. Eventually, split collection trucks may allow both simultaneous pickup of materials destined for composting and for landfilling.

12. Agency Contact Person

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SECTION 1. NR 500.03(20r), (29), (30g), (30r), and (44m) are created to read:

NR 500.03(20r) “Botanical residuals” means compostable materials and associated mineral soils derived from commercial and noncommercial horticultural activities such as greenhouse and plant nursery operations.

(29) “Class A compost” means compost derived from source-separated compostable materials that meets the requirements of s. NR 502.12(16).

(30g) “Clean chipped wood” means unpainted, untreated and unlaminated wood that has been chipped, ground or shredded into small pieces and is free from contamination by bonding agents, dyes, finishes, chemical preservatives, or physical contaminants such as metal or plastic.

Note: Chapter NR 40 governs the identification, classification and control of invasive species in Wisconsin. Proper screening of compost feedstock materials and achievement of appropriate temperatures and residence times can help prevent the spread of viable seeds or other propagules of invasive species through compost.

(30r) “Clean sawdust” means sawdust from processing of unpainted, untreated and unlaminated wood that is free from contamination by bonding agents, dyes, finishes, chemical preservatives or physical contaminants such as metal or plastic.

(44m) “Compostable” means susceptible to complete decomposition by aerobic biological processes to yield carbon dioxide, water, inorganic compounds and organic matter, leaving no distinguishable or toxic residue.

SECTION 2. NR 500.03(45) is amended to read:

NR 500.03(45) “Composting” means ~~an aerobic decomposition process by which microorganisms or soil invertebrates reduce materials into component compounds, producing carbon dioxide and water as primary by-products~~ the biological degradation and transformation of organic solid waste under controlled conditions designed to promote aerobic decomposition. “Composting” includes vermicomposting.

SECTION 3. NR 500.03(86m), (88m), and (155m) are created to read:

NR 500.03(86m) "Finished compost" means compost that has been processed sufficiently to meet the maturity and stability criteria in Table 2 of s. NR 502.12, and that is ready and suitable for sale, distribution or use.

(88m) "Food residuals" means unconsumed raw or cooked compostable material that results from handling, preparation, cooking, sale or consumption of food, and includes whole, ground and pulped food scraps, as well as compostable food packaging, utensils, tableware, kitchenware and food containers that meet either the ASTM – D-6400 or the D-6868 standard. "Food residuals" includes vegetable and non-vegetable food residuals, but does not include rendering or slaughterhouse wastes or animal carcasses.

Note: Copies of ASTM standards D-6400 and D-6868 may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585, www.astm.org. Copies of the standard are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

(155m) "Nonrecyclable compostable paper" means compostable paper that is unrecyclable because it has been soiled or is not of a grade that is acceptable to the local recycling program serving the place of generation.

SECTION 4. NR 500.03(185) is amended to read:

NR 500.03(185) "Putrescible waste" means solid waste which contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of supporting a disease vector population or attracting or providing food for birds. It does not include high-volume industrial waste.

SECTION 5. NR 500.03(219m) is created to read:

NR 500.03(219m) "Source-separated compostable material" means compostable materials that are separated from non-compostable material at the point of generation for use in composting and are kept separate from municipal solid waste. Source-separated compostable material includes food residuals; farm and non-farm crop residues; botanical residuals; aquatic plants; vegetative food processing residues such as those from cannery and brewing activities; fish harvesting and processing residuals; yard residuals; farm and herbivorous animal manure, excluding deer and elk manure, and associated animal bedding; clean chipped wood; clean sawdust; non-recyclable compostable paper; and other similar materials approved in writing by the department. This term does not include biosolids, domestic wastewater, sewage sludge or septage, high-volume industrial waste, rendering or slaughterhouse wastes, animal carcasses, other solid waste or hazardous waste.

SECTION 6. NR 500.03(253) is amended to read:

NR 500.03(253) "Vegetable food waste residuals" means food residuals consisting of raw or cooked waste fruit and vegetable material from residences, food establishments such as cafeterias, restaurants, food wholesalers, food retailers and food processors. It also includes food containers which are composed entirely of readily biodegradable materials, such as waxed or unwaxed paper products or corn starch, if the containers have been contaminated with vegetable food by virtue of use. It does not include food containers composed of materials which are not readily biodegradable, such as metal, glass or petroleum derived plastic used in container coatings, layers, or other components, and includes compostable packaging, utensils, tableware, kitchenware and containers that meet either the ASTM - D6400 or the D-6868 standard.

Note: Copies of ASTM standards D-6400 and D-6868 may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585, www.astm.org. Copies of the standard are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

SECTION 7. NR 500.03(253m) is created to read:

NR 500.03(253m) "Vermicomposting" means the controlled and managed process by which live worms convert organic matter into dark, fertile granular excrement.

SECTION 8. NR 500.03(262) is amended to read:

NR 500.03(262) "~~Yard waste residuals~~" has the meaning specified means yard waste as defined in s. 287.01 (17), Stats., as well as incidental spoiled fruit and vegetables from noncommercial sources.

Note: Section 287.01 (17), Stats., defines "yard waste" to mean "leaves, grass clippings, yard and garden debris and brush, including clean woody vegetation material no greater than 6 inches in diameter. This term does not include stumps, roots or shrubs with intact root balls."

SECTION 9. NR 500.03(262) (note) is created to read:

Note: Chapter NR 40 governs the identification, classification and control of invasive species in Wisconsin. Proper screening of compost feedstock materials and achievement of appropriate temperatures and residence times can help prevent the spread of viable seeds or other propagules of invasive species through compost.

SECTION 10. NR 502.12(title) is amended to read:

NR 502.12(title) **Yard, farm, vegetable food waste residuals and source-separated compostable material composting facilities.**

SECTION 11. NR 502.12(1)(intro.) is amended to read:

NR 502.12(1) GENERAL. No person may operate or maintain a ~~solid waste~~ composting facility for ~~yard waste, clean chipped wood residuals~~, farm crop residue, farm animal manure, animal carcasses ~~or~~ food residuals including vegetable food waste residuals, or source-separated compostable material except in accordance with the following requirements of this section or s. NR 243.15(8):.

SECTION 12. NR 502.12(1)(a) to (f) are repealed.

SECTION 13. NR 502.12(1)(note) is amended to read:

Note: Pursuant to s. NR 243.15(8), the Department may choose to regulate composting facilities associated with livestock operations that are subject to the requirements of ch. NR 243 under that operation's Wisconsin Pollution Discharge Elimination System permit instead of under s. NR 502.12. Facilities for composting waste types other than ~~yard waste, clean chipped wood, residuals~~, farm crop residue, farm animal manure, animal carcasses ~~or vegetable food waste, food residuals or source-separated compostable materials~~ are regulated under s. NR 502.08. Local ordinances may apply to facilities regulated under this section. ~~Tables summarizing applicable requirements are provided at the end of the section.~~

SECTION 14. NR 502.12(2) is amended to read:

NR 502.12(2) HOUSEHOLD EXEMPTION. Facilities for composting only solid waste source-separated compostable material from a single family or household, a member of which is the owner, occupant or lessee of the property where the facility is located, are exempt from the requirements of s. NR 502.04, ~~the licensing requirement~~ and all requirements of this chapter, provided the facility is operated in a nuisance-free and environmentally sound manner.

SECTION 15. NR 502.12(3)(title), (intro.) and (a) are amended to read:

NR 502.12(3)(title) LIMITED EXEMPTION FOR YARD AND VEGETABLE FOOD WASTE SOURCE-SEPARATED COMPOSTABLE MATERIAL COMPOSTING FACILITIES WITH CAPACITY OF 50 CUBIC YARDS OR LESS.

(intro.) Facilities for composting ~~yard waste, clean chipped wood waste, vegetable food waste or manure~~ source-separated compostable materials which ~~that~~ do not exceed 50 cubic yards at one time, including collected raw materials and compost being processed but excluding finished compost, are exempt from the requirements specified in s. NR 502.04 (2) to (6), locational criteria, plan of operation submittal, licensing and all other requirements of this chapter provided the following are met:

(a) The requirements performance standards specified in s. NR 502.04 (1) and the minimum operational standards specified in sub. (10).

SECTION 16. NR 502.12(4)(title), (intro.) and (c) are amended to read:

NR 502.12(4)(title) LIMITED EXEMPTION FOR FARM CROP RESIDUE OR MANURE COMPOSTING FACILITIES.

(intro.) Facilities for on site composting of farm crop residue or manure, except deer or elk manure, directly from agricultural operations are exempt from the requirements of s. NR 502.04 (2) to (6), locational criteria, plan of operation submittal, licensing and all other requirements of this chapter, provided all of the following requirements are met:

(c) All the farm crop residue and manure composted are generated from agricultural operations either under common ownership, common management or located adjacent to each other, and the composting occurs on the property of one of these agricultural operations.

SECTION 17. NR 502.12(4)(e)(intro.) is amended to read:

NR 502.12(4)(e)(intro.) ~~If yard waste or clean chipped wood are~~ Source-separated compostable material other than farm crop residue and manure may be accepted from off site for use in the composting process if, the following requirements ~~shall be~~ are met:

SECTION 18. NR 502.12(4)(e)1. through 3. are repealed and recreated to read:

NR 502.12(4)(e)1. The locational criteria in sub. (8), unless the offsite material consists exclusively of yard material, clean chipped wood or both.

NR 502.12(4)(e)2. The minimum operational and design standards in subs. (10) and (11).

NR 502.12(4)(e)3. The recordkeeping requirements of sub. (15) (a) 3 and the discharge inspection requirements in sub. (15) (a) 4.

SECTION 19. NR 502.12(4)(e)4. is created to read:

NR 502.12(4)(e)4. The combined volume of farm crop residue, farm animal manure, and source-separated compostable material on site at one time may not exceed 10,000 cubic yards, including collected raw materials and compost being processed but excluding finished compost. The volume of food residual inputs to the composting process may not exceed 25 percent of the total combined volume of raw material inputs. Inputs shall be mixed to achieve an initial carbon to nitrogen ratio of at least 20 to 1.

SECTION 20. NR 502.12(4)(e)3.(note) is renumbered NR 502.12(4)(e)4.(note) and amended to read:

~~Note: Animal manure management is also regulated under ch. NR 243. Composting facilities that accept manure or are located at a livestock operation may be subject to additional state requirements in chs. NR 151 and 243 and in ch. ATCP 51, as well as local regulations for manure storage and shoreland and floodplain zoning. Public distribution of the compost may be regulated by the department of agriculture, trade and consumer protection (DATCP). Local Other local ordinances may apply to facilities regulated under this section. The following landspreading operations are exempt under s. NR 518.04 (1) (b), (h) and (i), respectively, provided the material is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices and the facility is operated and maintained in a safe, nuisance-free manner:~~

- ~~-Farms on which only nonhazardous agricultural ~~solid wastes~~ residuals resulting from the operation of a farm, including farm animal manure, are ~~disposed~~ landspread.~~
- ~~-Landspreading of uncomposted yard ~~waste~~ residuals.~~
- ~~-Landspreading of composted leaves, grass, brush, vegetable food waste and other similar vegetable matter source-separated compostable material.~~

SECTION 21. NR 502.12(5)(title), (intro.), (b), (c), (d), and (e) are amended to read:

NR 502.12(5)(title) LIMITED EXEMPTION FOR ON SITE FARM ANIMAL CARCASS COMPOSTING FACILITIES.

(intro.) Facilities for on site farm composting of animal carcasses other than deer or elk are exempt from the requirements in s. NR 502.04 (2) to (6), locational criteria, plan of operation submittal, licensing and all other requirements of this section, provided they are in compliance with s. 95.50 (1), Stats., and all of the following:

(b) The minimum operational and design standards in subs. (10) and (11), excluding the size reduction requirements in sub. (10) (c).

(c) Only animal carcasses, farm animal manure, farm crop residue, yard ~~waste~~ residuals and clean chipped wood are composted at the facility.

(d) All the farm wastes composted are generated from agricultural operations either under common ownership, common management or located adjacent to each other, and the composting occurs on the property of one of these agricultural operations.

(e) The compost is utilized for agricultural landspreading, at the same farm or at another farm, in accordance with s. NR 518.04 (1) (b) or (i), except that compost made using ruminant animal carcasses may not be utilized at another farm.

SECTION 22. NR 502.12(5)(f)(intro.), 1. and 2. are amended to read:

NR 502.12(5)(f)intro. If yard ~~waste~~ residuals or clean chipped wood are accepted from off site, the following requirements shall be met:

1. The yard ~~waste residuals~~ or clean chipped wood shall be mixed with farm wastes to increase the carbon to nitrogen ratio and porosity of the composting process.

2. The combined volume of animal carcasses, farm animal manure, farm crop residue, yard ~~waste residuals~~ and clean chipped wood on site at one time may not exceed 10,000 cubic yards, including collected ~~feedstocks raw materials, the composting process and compost being processed but excluding finished compost.~~

SECTION 23. NR 502.12(6)(title), (intro.), (b), (c) and (e) are amended to read:

NR 502.12(6)(title) LIMITED EXEMPTION FOR YARD WASTE RESIDUALS COMPOSTING FACILITIES WITH CAPACITY OF 20,000 CUBIC YARDS OR LESS.

(intro.) Facilities for composting yard ~~waste residuals~~ and clean chipped wood ~~waste~~ which that do not exceed 20,000 cubic yards at one time, including raw materials and compost being processed, but excluding finished compost, are exempt from the requirements in s. NR 502.04 (3) (c), (4), (5) and (6), plan of operation submittal and all other requirements of this chapter, provided all of the following requirements are met:

(b) ~~New~~ For new or expanded facilities, shall comply with the initial site inspection requirements in s. NR 502.04 (2) and demonstrate compliance with the locational criteria in sub. (8). New or expanded facilities with a capacity greater than 1,000 cubic yards shall comply with the initial site inspection requirements in s. NR 502.04 (2).

(c) The minimum operational and design standards in subs. (10) and (11), the recordkeeping requirements of sub. (15) (a) 3, the discharge inspection requirements in sub. (15) (a) 4, and the reporting requirements in sub. (15) (b).

(e) The compost is ~~utilized for landspreading applied to land,~~ either on site or off site, in accordance with s. NR 518.04 (1) (i), or is otherwise used for horticultural, landscaping or erosion control purposes.

SECTION 24. NR 502.12(7)(title), (intro.), (a), (b) and (c) are amended to read:

NR 502.12(7)(title) LIMITED EXEMPTION FOR VEGETABLE FOOD SOURCE-SEPARATED COMPOSTABLE MATERIAL COMPOSTING FACILITIES OF 500 5,000 CUBIC YARDS OR LESS.

(intro.) Facilities for composting ~~vegetable food waste source-separated compostable material~~ which that exceed 50 cubic yards but do not exceed 500 5,000 cubic yards at one time, including raw materials and compost being processed, but excluding finished compost, are exempt from the requirements in s. NR 502.04 (3) (c), (4), (5) and ~~(6), plan of operation submittal and all other requirements of this section, subs. (12) and (14), and the monitoring requirements of sub. (15) (a) 1 and 2,~~ provided all of the following requirements are met:

(a) The performance standards and closure requirements in s. NR 502.04 (1) and (3) (a) and (b).

(b) ~~New~~ For new or expanded facilities, shall comply with the initial site inspection requirements in s. NR 502.04 (2) and demonstrate compliance with the locational criteria in sub. (8).

(c) The minimum operational and design standards in subs. (10) and (11), the plan submittal requirements in sub. (13), the recordkeeping requirements of sub. (15) (a) 3, the discharge inspection requirements in sub. (15) (a) 4, and the reporting requirements in sub. (15) (b).

SECTION 25. NR 502.12(7)(e) and (f) are repealed and recreated to read:

NR 502.12(7)(e) For facilities that use animal manure as a raw material, the testing requirements of sub. (15) (a) 1.

(f) The compost is utilized for landspreading applied to land, either on site or off site, in accordance with s. NR 518.04 (1) (i), or is otherwise used for horticultural, landscaping or erosion control purposes.

SECTION 26. NR 502.12(8)(title) and (a)(intro.) are amended to read:

NR 502.12(8)(title) ~~LOCATIONAL CRITERIA FOR EXEMPT YARD-WASTE COMPOSTING FACILITIES AND EXEMPT VEGETABLE FOOD-WASTE COMPOSTING FACILITIES.~~

(a)(intro.) ~~Facilities described in sub. (6) or (7)~~ Unless exempt under sub. (2), (3), (4) or (5) from compliance with locational criteria, new or expanded compost facilities regulated under this section may not be located in any of the following areas unless an exemption has been granted in writing by the department under par. ~~(b)~~ (c):

SECTION 27. NR 502.12(8)(a)4. and 6. are repealed.

SECTION 28. NR 502.12(8)(a)5., 7. and 8. are renumbered to NR 502.12(8)(a)4., 5. and 6.

SECTION 29. NR 502.12(8)(b) is repealed and recreated to read:

NR 502.12(8)(b) In addition to the restrictions in par. (a):

1. Facilities exempt under sub. (6) or (7) may not be located within 250 feet of any navigable lake, pond or flowage, or within 100 feet of land owned by a person other than the owner or operator of the facility.

2. Facilities not exempt under sub. (2), (3), (4), (5), (6) or (7) may not be located within 500 feet of any navigable lake, pond or flowage, or within 250 feet of land owned by a person other than the owner or operator of the facility.

SECTION 30. NR 502.12(8)(c) is created to read:

NR 502.12(8)(c) The department may grant exemptions from par. (a) 2. to 6. only upon demonstration by the applicant of circumstances which warrant the exemption. Exemption from compliance with par. (a) 1. may not be granted.

Note: Compost facilities associated with livestock operations that are required to have a wastewater discharge permit under the Wisconsin Pollution Discharge Elimination System and that handle manure, animal feed or other agricultural materials may be subject to additional locational requirements in chs. NR 151, NR 243 or ATCP 51.

SECTION 31. NR 502.12(9) is repealed.

SECTION 32. NR 502.12(10)(intro.) and (a) to (e) are amended to read:

NR 502.12(10)(intro.) Unless exempt under sub. (2), ~~(3)~~ or (4), no person may operate or maintain a composting facility regulated under this section except in accordance with the following minimum operational requirements:

(a) ~~Wastes~~ Raw materials accepted for composting shall be source separated at the point of generation so that ~~the wastes they~~ have not been mixed or otherwise contaminated with nonapproved waste types, particularly materials which are not readily ~~biodegradable~~ compostable. Prior to incorporation into the composting process, the ~~wastes raw materials~~ shall be sorted as needed to ensure that materials which are not readily ~~biodegradable~~ compostable are removed unless alternate operational methods are used in conjunction with equipment to produce a compost product virtually free of physical and chemical contaminants.

Note: Compost product which contains physical or chemical contaminants of ~~concern~~, such as plastic, glass, metal scraps or regulated concentrations of heavy metals or organic compounds, may require controlled disposal under an approved landspreading plan or at a landfill.

(b) ~~Wastes~~ Raw materials in noncompostable bags shall be debagged within 24 hours of receipt at the facility. Raw materials, other than leaves and brush, in compostable bags shall be processed such that the contents of the bags are exposed to air within 24 hours of receipt at the facility. Stored waste shall be managed in accordance with the requirements applicable to the composting process. The following operational standards shall also be met for the wastes specified:

1. Grass clippings, ~~manure~~ and food ~~waste~~ residuals from canned, frozen or preserved fruit or vegetable processing operations shall be incorporated into windrows or ~~either another~~ another composting process within 72 hours of receipt at the facility, unless odor becomes a problem at the facility in which case these ~~wastes~~ materials shall be incorporated within 24 hours.

2. Animal carcasses, fish harvesting and processing residuals, ~~manure~~ and food ~~waste~~ residuals which ~~is~~ are not from canned, frozen or preserved fruit or vegetable processing operations shall be incorporated into windrows or another composting process on the same operating day as received at the facility. Upon initial incorporation of ~~animal carcasses or these food wastes~~ residuals, composting windrows or piles shall be covered with a minimum 6 inch layer of compost, high carbon material such as wood chips, or other suitable material to control odor and vectors.

3. All animal carcasses and food ~~waste~~ residuals shall be managed to prevent access by dogs and wild animals from reaching the wastes.

(c) ~~Yard waste residuals, wood waste, vegetable food waste, animal carcasses and crop residue~~ Compost raw materials shall be size reduced if necessary to provide adequate particle surface area for effective composting.

(d) Materials within the composting process shall be thoroughly mixed as appropriate to the composting method and aerated as frequently as necessary. Windrow height, structure and porosity shall be designed and maintained to ensure that adequate oxygen is available at all times within the ~~waste~~ windrow or pile to prevent the process from becoming anaerobic.

Note: To maintain aerobic composting and prevent odor, aeration is needed whenever the process temperature rises to 150°F or more, ~~or when the oxygen level drops to 15% or less.~~ Windrows consisting primarily of leaves and wood waste are likely to require turning at least monthly from spring through fall.

(e) Materials shall be mixed into the composting process to provide a minimum initial carbon to nitrogen ratio of ~~12:1~~ 20:1.

Note: For aerobic composting, the optimum carbon to nitrogen ratio ranges from approximately 20:1 to 40:1.

SECTION 33. NR 502.12(10)(h)1. is amended to read:

NR 502.12(10)(h)1. Stabilized to reduce ~~eliminate~~ pathogenic organisms and to ensure that the materials do not reheat upon standing.

SECTION 34. NR 502.12(10)(h)3. is amended to read:

NR 502.12(10)(h)3. Free of toxins and pathogens in amounts or concentrations that ~~which~~ could cause detrimental impacts to public health or the environment.

Note: Pathogens are defined in ch. NR 204 as “disease causing organisms, including but not limited to certain bacteria, protozoa, viruses and viable helminth ova.” Appropriate methods for pathogen ~~elimination~~ reduction during composting are specified in 40 CFR, Part 257, Appendix II, Section B:

1. For in-vessel or static aerated pile composting, maintain a continuous minimum temperature of 55°C, or 131°F, for a minimum of 3 consecutive days.
2. For windrow composting, attain a minimum temperature of 55°C, or 131°F, on a minimum of 15 days, which are not required to be consecutive, and turn the windrow a minimum of 5 times during the high temperature periods.

SECTION 35. NR 502.12(10)(j)(note) is amended to read:

NR 502.12(10)(j)(note) **Note:** Landspreading of composted leaves, grass, brush, ~~vegetable food waste and other similar vegetable matter~~ source-separated compostable material is exempt from department landspreading regulations under s. NR 518.04(1)(i) provided the material is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices and the facility is operated and maintained in a safe, nuisance-free manner. Public distribution of the compost may be regulated by the department of agriculture, trade and consumer protection (DATCP).

SECTION 36. NR 502.12(11)(intro.), (a) and (b) are amended to read:

NR 502.12(11)(intro.) Unless exempt under sub. (2), ~~(3) or (4)~~ (3), no person may construct or maintain a composting facility regulated under this section except in accordance with the following minimum design standards:

(a) Run-off from the composting area shall be discharged to a ~~gentle~~ gently sloping grassed vegetated area of sufficient size to prevent erosion and any discernible confined and discrete discharge of liquids or suspended solids to surface water or wetlands ~~discharge~~ from the composting area.

(b) Slope, vegetation and surface water containment ditches, ~~and~~ retention basins, compost berms or socks and other best management practices shall be used at the facility as needed to minimize erosion, prevent pollutant discharges from stormwater runoff and maintain diffused surface drainage.

SECTION 37. NR 502.12(11)(d) is repealed and recreated to read:

NR 502.12(11)(d) If inspections performed under sub. (15) (a) 4. indicate improvements in stormwater controls are needed to meet the requirements of pars. (a) through (c), the owner and operator of the facility shall make the needed improvements as soon as practicable and update the stormwater pollution prevention plan, if applicable.

SECTION 38. NR 502.12(11)(d)(note) is created to read:

Note: Under ch. NR 216, new or expanding facilities with one acre or more of land disturbance are required to obtain a construction site storm water permit. In addition, the department may require a composting facility to obtain an industrial stormwater discharge permit if it does not maintain compliance with a separate department permit or approval which includes storm water control requirements that are at least as stringent as those required under ch. NR 216, resulting in the discharge of pollutants to waters of the state or constituting a significant contribution of pollutants to the waters of the state.

SECTION 39. NR 502.12(11)(e) and (note) are created to read:

NR 502.12(11)(e) The overall composting facility shall be of sufficient size to allow processing of materials as necessary to avoid nuisance conditions, and shall have adequate room for material stockpiles, windrows of manageable dimensions for maintaining aerobic conditions, curing piles, staging of finished compost, and equipment.

Note: Composting facilities that accept manure or are located at a livestock operation may be subject to additional state requirements in chs. NR 151 and 243 and in ATCP 51, as well as local regulations for manure storage and shoreland and floodplain zoning. Other local ordinances may apply to facilities regulated under this section.

SECTION 40. NR 502.12(12)(a) and (b) are amended to read:

NR 502.12(12)(a) All run-off that contacts waste materials being composted or raw materials staged for composting shall be managed as leachate and shall be directed to either a collection basin or a tank. Leachate may be used in the composting operation for moisture addition. All other leachate shall be treated at a an onsite or offsite wastewater treatment facility permitted to accept it.

(b) All composting, and all storage of waste uncomposted raw materials and compost, other than leaves, clean chipped wood, clean sawdust and other raw materials with initial carbon-to-nitrogen ratios greater than 30:1 shall take place on a low-permeability pad constructed of either asphalt, concrete, recompacted clay or other material approved by the department.

SECTION 41. NR 502.12(13)(title), (intro.), (b), (e), (f), (g), (h) and (k) are amended to read:

NR 502.12(13)(title) PLAN SUBMITTAL REQUIREMENTS FOR NONEXEMPT AND CERTAIN EXEMPT COMPOSTING FACILITIES.

(intro.) Unless the facility is exempt under sub. (2), (3), (4), (5), or (6) or (7), applicants for all new or expanded composting facilities regulated under this section shall submit a plan of operation report and obtain department approval of the plan of operation report prior to construction of the new or expanded facility. Unless an exemption is granted by the department in writing, the plan shall be submitted in accordance with s. NR 500.05, except that facilities exempt under sub. (7) need not comply with s. NR 500.05 (4). The plan shall provide a design which

complies with subs. (10), (11) and, as applicable, (12), and contain the following minimum information:

(b) A brief description of the project, including the area served, an estimate of the total annual tonnage and volume of material to be processed and identification of the types of waste feedstocks materials to be composted used in the compost process.

(c) For each ~~waste feedstock~~ raw material proposed to be composted, either laboratory or literature data documenting the carbon, nitrogen and moisture, ~~phosphorus and potassium~~ content and pH.

(f) A proposed ~~feedstock~~ raw material mix for composting, with calculations or laboratory data documenting the carbon, nitrogen, ~~phosphorus and potassium~~ moisture content and pH of the mix.

(g) A specification of the maximum size, including volume, height and width, for staging piles, composting windrows or other composting processes, curing piles, and finished compost storage. If the ~~waste materials~~ on site at any one time will exceed ~~either 40,000 cubic yards of yard waste residuals and clean chipped wood, 10,000 cubic yards of source-separated compostable materials other than yard residuals and clean chipped wood, or 1,000 5,000 cubic yards of vegetable food waste residuals~~, an estimate of closure costs shall be provided with the plan of operation report, and prior to licensure, proof of financial responsibility in accordance with ss. NR 520.06 through 520.13 shall be provided for the closure costs, including the removal, transport and ultimate disposal of all waste material and compost at the site.

(h) A specification of the methods of measuring critical parameters within the windrow and other composting processes, and a description of methods that will be used to ensure the critical parameters are met. Critical parameters addressed shall include carbon to nitrogen ratio, temperature, moisture content, oxygen content, pH and stability. ~~Actions to be taken in response to odors, shall be specified. Frequency of turning and residence times shall be specified. The specification shall describe methods to be used for maintaining aerobic conditions during the composting process, including turning equipment and frequency for passive ventilation, and equipment and residence time for mechanical ventilation, as well as actions to be taken in response to odors and composting process upsets.~~

(k) Identification of any noncompostable waste, such as bags, which will be generated from the composting operation, and the name and location of solid waste disposal facilities at which any waste generated from the composting operation will be disposed of.

SECTION 42. NR 502.12(13)(m), (n), (o) and (p) are created to read:

NR 502.12(13)(m) A description of the planned sampling frequency and testing parameters for the finished compost.

(n) A stormwater pollution prevention plan that meets the requirements of s. NR 216.27.

(o) Identification of local zoning and permit requirements that apply to the proposed facility.

Note: Under ch. NR 216, new or expanding facilities with one acre or mor of land disturbance are required to obtain a construction site storm water permit.

(p) Proposed procedures for amending the plan in the event changes to the approved plan are needed.

SECTION 43. NR 502.12(14)(a) is amended to read:

NR 502.12(14)(a) ~~Unless exempt~~ For facilities other than those exempt under sub. (2), (3), (4), (5), (6) or (7), the department may require owners and operators of new or expanded composting facilities regulated under this section ~~shall~~ to submit a construction documentation report to the department and obtain department approval of the construction documentation report prior to operation of the facility.

SECTION 44. NR 502.12(15) is repealed and recreated to read:

NR 502.12(15) MONITORING, RECORDKEEPING AND REPORTING. (a) Unless exempt under sub. (2), (3), (4), (5), (6) or (7), owners and operators of composting facilities regulated under this section shall complete monitoring and reporting in accordance with the plan of operation approval and the following requirements:

1. Samples of the finished compost that is ready for sale, distribution or use shall be collected every 2,000 tons or 4,000 cubic yards, with a minimum of one sample per year, or, alternatively, in accordance with the testing frequency specified by the United States Composting Council's Seal of Testing Assurance program, unless a different frequency is approved in writing by the department, and tested for the parameters in Tables 1 and 2.

Note: Only class A compost under sub. NR 502.12 (16) is subject to the limits in Tables 1 and 2. "Test Methods for Evaluation of Compost and Composting" (2002) and a list of laboratories certified under the Seal of Testing Assurance program are available from the United States Composting Council, 1 Comac Loop 14 B1, Ronkonkoma, NY 11779, (631) 737-4931, www.compostingcouncil.org.

a. Samples shall be collected, handled and analyzed in accordance with methods listed in "Test Methods for Evaluation of Compost and Composting" published in 2002 by the United States Composting Council or other methods approved in writing by the department. Samples shall be tested at a laboratory certified under the United States Composting Council's Seal of Testing Assurance program or at another laboratory approved in writing by the department.

Note: "Test Methods for Evaluation of Compost and Composting" (2002) and a list of laboratories certified under the Seal of Testing Assurance program are available from the United States Composting Council, 1 Comac Loop 14 B1, Ronkonkoma, NY 11779, (631) 737-4931, www.compostingcouncil.org.

b. Test results shall be made available upon request to the department, potential users of the compost, and to the general public.

2. Unfiltered leachate samples shall be taken from the collection basin or tank, and tested quarterly for the first 4 quarters and annually thereafter for BOD₅, COD, field pH, field conductivity corrected to 25°C, nitrates+nitrite-nitrogen, and total dissolved solids.

3. Compost pile turning frequency and temperature readings as appropriate to the composting method used shall be documented and maintained to demonstrate pathogen reduction and odor control activities.

4. The facility shall be visually inspected by the owner or operator quarterly to evaluate stormwater discharge quality and performance of discharge controls, and twice per year to identify non-stormwater discharges if present.

(b) Unless exempt under sub. (2), (3), (4), or (5), the owner or operator of a composting facility regulated under this section shall prepare and submit an annual report to the department by March 1 on forms supplied by the department. The annual report shall include at least the following information:

1. Name and address of the facility.
2. Calendar year covered by the report.
3. Annual quantities and types of raw materials received and compost produced, in tons. Tonnage estimates may be based on volume records where scale weights are not available.
4. Annual quantity of compost sold, distributed or used, in tons, and quantity of class A compost sold, distributed or used.
5. Copies of laboratory analyses of composted material.
6. Any additional information required as a condition of the plan of operation approval.

Note: Copies of the annual reporting form may be obtained from the department of natural resources, bureau of waste and materials management, 101 South Webster Street, P.O. Box 7921, Madison, Wisconsin 53707-7921, (608) 266-2111, DNRwastematerials@wisconsin.gov, or online at <http://dnr.wi.gov/org/aw/wm/publications/>.

SECTION 45. NR 502.12(16) is created to read:

NR 502.12(16) CLASS A COMPOST. Finished compost may be designated and distributed as class A compost if it meets all of the following requirements:

- (a) The compost is composed entirely of materials meeting the definition of "source-separated compostable materials" in s. 500.03 (219m).
- (b) The compost is produced by one of the processes to reduce pathogens described in subd. 1 to 3, with temperature and retention time monitored and recorded each day until the temperature and retention time criteria are met:
 1. Windrow method consisting of an unconfined composting process utilizing periodic aeration and mixing. Aerobic conditions shall be maintained during the composting process. A temperature of 55°C, or 131F shall be maintained in the windrow for at least fifteen days. The windrow shall be turned at least five times during the high-temperature period.
 2. Mechanically aerated static pile method consisting of an unconfined composting process utilizing mechanically forced aeration of insulated compost piles. Aerobic conditions shall be maintained during the composting process. The temperature of the compost pile shall be maintained at a continuous minimum of 55°C, or 131°F, for at least three consecutive days.
 3. In-vessel method consisting of a confined compost process utilizing mechanical mixing of compost under controlled conditions. The minimum retention time in the vessel shall be 72 hours with the temperature maintained at 55°C, or 131F.

(c) The compost is tested in accordance with sub. (15) (a) 1. a. and b.

(d) The compost does not exceed any of the limits specified in Tables 1 or 2.

SECTION 46. NR 502.12 (table 1) and (table 2) are repealed and recreated to read:

Table 1.
Test parameters for nonexempt compost facilities and class A compost

Parameter	Limit for class A compost (mg/kg dry weight)
Arsenic	12
Cadmium	6.1
Chromium	120
Copper	400
Lead	95
Mercury	1.2
Molybdenum	15
Nickel	49
Selenium	4.9
Zinc	820
Physical contaminants	< 1 percent
Fecal Coliform	Either 1000 MPN/g of total solids (dry wt) fecal coliform or 3 MPN/4g of total solids (dry wt) salmonella
Salmonella	

Table 2.
Maturity and stability testing for nonexempt facilities and class A compost

Characteristic	Test procedure	Limit for Class A compost
Maturity (both methods)	Carbon:Nitrogen ratio	10 – 20:1
	Seedling emergence and vigor bioassay	Indices above 80%
Stability (one of the following methods)	Respirometry (carbon dioxide evolution)	Up to 5 mg CO ₂ -C/g volatile solids/day
	Dewar self-heating test	0 – 20°C temperature rise
	Solvita test	Index value 6 or greater

SECTION 47. NR 518.04(1)(intro.), (b) and (i) are amended to read:

NR 518.04(1)(intro.) GENERAL. The following landspreading facilities are exempt from the requirements of this chapter provided the solid waste or solid waste derived product is applied utilized as a soil conditioner or fertilizer in accordance with accepted agricultural practices and the facility is operated and maintained in a safe, nuisance-free manner:

(b) Farms on which only nonhazardous agricultural solid wastes resulting from the operation of a farm, including farm animal manure, are disposed of.

(i) Facilities used for the landspreading of composted ~~leaves, grass, brush, vegetable food waste and other similar composted vegetable matter~~ source-separated compostable material.

SECTION 48. Effective dates. This rule shall take effect on the first day of the month following publication in the Wisconsin Administrative Register as provided in s. 227.22(2)(intro.), Stats.

SECTION 49. Board adoption. This rule order was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Cathy Stepp, Secretary

(SEAL)