

A G E N D A

Livestock Siting Technical Expert Committee

Wednesday, October 15, 2014

9:00 a.m. to 3:00 p.m.

DATCP

Board Room 106

2811 Agriculture Drive

Madison WI 53718

- 9:00 a.m. Call to Order
- 9:05 Review of September 18 meeting notes – Jeff Lyon
- 9:15 Completion of First Committee Assignment – Members
- Application of technical requirements to feed storage including consideration of “substantially altered”
 - Discussion of Questions No. 5, 6 & 7 regarding incorporation of ATCP 50 and NR 151 updates into ATCP 51
- 10:30 Break – Coffee provided
- 10:45 Engineering Background Presentation for Second Committee Assignment- Steve Struss, DATCP; John Ramsden, NRCS; Matt Woodrow, DATCP
- BARNY v. BERT
 - Current evaluation techniques for existing manure storage
 - Existing feed storage: evaluation, management, structural practices
- 11:15 Discussion of Second Committee Assignment – Members
- 12:00 p.m. Lunch – Provided
- 12:45 Continue Discussion of Second Committee Assignment – Members
- 1:45 Break
- 1:55 Continue Discussion of Second Committee Assignment – Members
- 2:45 Wrap Up and Future Meetings – Jeff Lyon
- Summary of progress on assignment and decision on need for additional discussion
 - Discussion of future meetings-November 18th and beyond
- 3:00 Adjourn

MEETING NOTES

Livestock Siting Technical Expert Committee

Thursday, September 18, 2014

Jeff Lyon, Deputy Secretary DATCP, called the meeting to order. After preliminary remarks, the group introduced themselves: Mark Borchardt (researcher with expertise in water born infections and disease pathogen risks), Chuck McGinley (odor), Bob Pofahl (professional engineer), Brian Holmes (UW Engineering and Interim Associate Dean), Jerry Halverson (Director of Manitowoc County Department that has issued 21 siting licenses), Tonya Gratz (Green County nutrient management planner), Kevin Beckard (Ag Source nutrient management planner), Joe Baten (DNR CAFO), Lisa Trumble (DATCP), Sue Porter (DATCP nutrient management planner), Steve Stuss (DATCP siting engineer and odor), Richard Castelnuovo (DATCP odor and setbacks), David Panofsky (DNR air management engineer), Gretchen Wheat (DNR CAFO engineer), Robert Thibodeaux (WI DPH toxicologist), and John Ramsden (NRCS state engineer).

After presentations on committee procedures and background on the siting rule, committee members and advisors addressed the questions in their first assignment.

The following attempts to capture the committee's consensus regarding questions no. 1 through no. 4 of the first assignment, and this summary is subject to additional review by the committee at its October 15th.

Question #1

To be consistent with the state standards in NR 151 and ATCP 50, ATCP 51 should include a requirement for livestock operators to manage their operations to avoid significant discharges of process wastewater. The "zero discharge" standard in NR 243 should not be incorporated into ATCP 51. In applying this new standard, ATCP 51 should use the definition of process wastewater and significant discharge in NR 151. Complying with this standard will depend on a number of factors including a farm's location to waters of the state. The siting application should be modified to better document current and future compliance with this requirement.

Question #2

To be consistent with the state standards in NR 151 and ATCP 50, ATCP 51 should include a requirement that new and substantially altered feed storage facilities be designed, constructed and operated in accordance with NRCS 629 (January 2014). Consistent with NRCS 629, this requirement should apply to new or substantially altered storage areas that hold all commonly stored feeds, not just feed over 70 percent moisture (cannery, brewers and distillers byproduct feeds). The NRCS 629 standard would not apply to storage of feed with 40 percent or less moisture, including feed stored in bags. The committee did not agree to limit NRCS 629 requirements to livestock facilities with 500 or more AUs. Under ATCP 50.01(40), a "substantially altered" livestock structure means a livestock structure that undergoes a

material change in construction or use, including an increase of more than 20% in the area or capacity of a structure used to store feed. The committee will review the definition of substantially altered to ensure that the NRCS 629 standard is not applied inappropriately to certain modified storage facilities.

Question # 3

For all volumes generated, milking center wastewater should be discharged to manure storage or another structure that meets the design criteria of NRCS Code 313 except if the livestock facility produces less than 500 gallons of wastewater daily and does not store the wastewater for an extended period, then the livestock operation must use the treatment practices described in NRCS 629 (January 2014).

Question # 4

To be consistent with the state standards in NR 151 and ATCP 50, ATCP 51 should require that cropland covered by a permitted facility's nutrient management plan have an average Phosphorus Index (PI) of 6 over a rotation and annual PI not to exceed 12, consistent with the requirements of NR 151.04. A facility's required nutrient management plan, if it includes an appropriate phosphorus index (PI) calculation value, may be used to demonstrate compliance these PI requirements. A livestock operator may meet the phosphorus management requirements in NRCS 590 (September, 2005) by using a soil test management approach as an alternative to a PI calculation. A local government may request NM plan updates and other documentation to monitor a permitted facility's compliance with the PI requirement.

The committee will complete questions # 5, # 6 and # 7 of the first assignment on October 15th.

Assignment
Livestock Facility Siting Technical Expert Committee
October 15, 2014

Scope of Second Assignment

The committee's second assignment covers the topic of engineering. While assignments are tailored to be completed during a scheduled meeting, the committee may carry over an assignment into its next meeting. Notes will be prepared by DATCP staff reflecting the committee discussions. Future assignments will address the following topics: 1) nutrient management, and 2) odor and setbacks. Next year, the committee may be reconvened to provide advice regarding manure irrigation and nutrient management.

These are the specific questions related to engineering (all underlined blue text provides links to the referenced documentation):

Engineering

1. The siting rule references a model for predicting animal lot runoff, [BARNY](#), that is not the most current model supported by NRCS, which now uses [BERT](#).

Background: [ATCP 51.20\(2\)](#) requires applicants for a siting permit to document that all existing animal lots have an average annual phosphorus runoff of 5 pounds if they are located near a waterway and 15 pounds if they are not. ATCP 51 requires that applicants use BARNY to predict phosphorus loadings. BARNY is not currently supported by NRCS, and has been replaced by BERT. In fact, the Note ATCP 51.20(2) is incorrect to the extent it states that an Excel spreadsheet version of BARNY may be obtained from the [Wisconsin NRCS website](#) (engineering directory).

Should NRCS BERT replace BARNY as the model for predicting runoff under the siting rule? Does BERT include all the necessary functionality to model runoff for the siting rule? For example, does BERT need modification to confirm laminar (sheet) flow across the buffer? Whichever model is used, what documentation must an applicant provide to demonstrate compliance with the runoff limits (e.g. a printout of the model inputs and outputs)?

2. When an existing animal lot fails to meet the applicable runoff threshold in ATCP 51.20(2) it may be retained only if it, or an adjacent treatment area, is altered in some manner to control runoff. An applicant may be issued a permit based on a commitment in the application (e.g. submission of engineered design) to install practices to control the runoff.

Background: The runoff control requirements in the rule depend on whether the alteration of an animal lot is [minor](#) or substantial. The definition of "substantially altered" in [ATCP 50.01\(40\)](#), for the purpose of animal lot as "an increase of more than 20% in the area or capacity of a livestock structure used to house, feed or confine livestock." [Worksheet 5 \(Appendix A, 390-35\)](#) defines "minor

alterations” as repairs or improvements that do not result in a substantially altered animal lot, and suggest that they may include conservation practices such as runoff diversions, contouring, and planting vegetation.

[ATCP 51.20\(2\)](#) requires that *substantially altered* animal lots must meet [NRCS technical guide wastewater treatment strip standard 635](#). An applicant must submit an engineered design for any substantially altered animal lot, and this submission represents a commitment by the applicant to install the facility in accordance with the design and applicable technical standards. A local government may take action if the livestock operator fails to honor this commitment. See [ATCP 51.34\(4\)\(b\)2](#).

With respect to minor alterations, neither the worksheet nor rule refers to NRCS or other technical standards for the installation of runoff diversions and other minor practices. Nor is there reference to how an applicant documents the commitments to make minor alterations. In the same vein, there is no mechanism in the application for livestock operators to document proposed management changes (e.g. more frequent cleaning of lots and reduced density) that can reduce runoff risks.

Regarding the commitments made in the application, [ATCP 51.08\(2\)](#) allows a permitted facility up to two years to start construction on the proposed modification. The current rule does not allow a local government to shorten the period for compliance. For example, in the case of an animal lot the rule does not require that the livestock facility control a discharge before a permit can be issued.

How can the rule be clarified or improved to support minor alterations to animal lots needed to meet the runoff thresholds in ATCP 51.20(2)? For example, can the rule better identify practices and related technical standards that constitute a minor alteration? Should applicants be required to submit designs or other document to reflect their commitment to install water quality practices related to a minor alteration? If there is a significant discharge, or other problem that presents a significant risk to water quality, should a local government be able to impose a condition to correct the problem within a time period of less than two years?

3. To continue to use existing manure storage structures and waste transfer systems, an applicant for a siting permit must document that these facilities were designed according to certain technical standards and do not present unacceptable risks of structural failure or leaking.

Background: [Worksheet 4 \(Appendix A, 390-33\)](#) requires that a licensed engineer or engineering practitioner assess the condition of each waste storage facility that will continue in use without being substantially altered. In order to receive a siting permit each waste storage facility must meet certain standards as certified by the reviewing engineer or engineering practitioner. By definition [see [ATCP 51.01\(43\)](#)], a waste storage facility includes impoundments plus any

stationary equipment and piping used to load or unload them. The worksheet provides relatively clear standards for evaluating storage structures based on the age and design of the structure. The reviewer must also conduct a visual inspection for signs of substandard condition and repairs, leakage, or failure. The extent of the visual inspection depends on the age of the facility. The worksheet doesn't provide space to record information about the facility being evaluated, including its location and other descriptive information, its liner type, availability of designs and as-built documentation, the date of its construction, its dimensions and volume, date of its inspection, and level of manure in storage. For storage liner types that are more prone to damage (compacted clay, geomembrane, geosynthetic), there is no requirement to conduct an inspection when the structure is empty or as near to empty as practical (typically within two feet from the lowest point). For existing storage facilities, there is no requirement for safety fencing, as is the case for all new storage facilities. The worksheet offers no guidance on evaluating a waste transfer systems and no clear mechanism to document construction to meet technical standards and to be in sound operating condition (i.e. no risk of failure or leaking).

How can the worksheet's evaluation requirements be improved. For example, should the rule provide more concrete direction on how to conduct a visual inspection? Is there a way to make use of the evaluation processes used for NRCS Comprehensive Nutrient Management Plan (CNMP) and DNR Wisconsin Pollution Discharge Elimination System (WPDES) permits for animal feeding operations?

4. When adopted in 2006, ATCP 51 did not include emerging technologies that were not in common usage, such as sand settling lanes, and also did not set technical standards for newly developed technologies in advance of standards set by NRCS and other custodians.

Background: The following technologies are relevant to ATCP 51, but neither the rule nor the accompanying [worksheet](#) include the most current definitions or technical standards: composting facilities, digesters, digester substrate storage, manure residual storage, solid separation and treatment of liquid waste, sand settling lanes, manure storage covers (bio-covers, geotextile impermeable), bio-filters, and air dams. Also, the rule references certain management practices, such as frequent cleaning of animal lots, which may not reflect the most current technical standards.

Regarding the following, do you agree with the standards cited or do you have other recommended standards?

- For composting facilities, reference [NRCS Standard 317](#).
- For anaerobic digesters, [NRCS Standard 366](#).
- For digester substrate storage, [NRCS Standard 313](#) or DNR Industrial waste rules, such as [NR 213, Wis. Admin. Code](#), based on types and amounts stored.
- For manure residual storage, [NRCS Standard 313](#).
- For solid separation, [NRCS Standard 632](#).

- For treatment of liquid waste, [NRCS Standard 632](#).
- For sand settling lanes, [NRCS Standard 632](#).
- For manure storage covers, [NRCS Standard 367](#) (Does not include natural crust and bio-cover).

Are there other new technologies that are not adequately addressed in the rule or worksheets?

5. While all existing feed storage must be managed to avoid significant discharges, the rule does not impose affirmative requirements for permitted livestock operations except those limited number of facilities that store high moisture feed.

Background: As part of a siting permit application, livestock operators with existing feed storage systems are not required to evaluate the condition of a storage facility in terms of the likelihood of failure, runoff events, or leakage.

[ATCP 51.20\(3\)](#) requires that existing paved facilities must control runoff by diverting clean water and collecting leachate from larger-sized pads only if the facilities store feed with 70% or more moisture content (cannery, brewers and distillers byproduct feeds). When feed exceeds a moisture content level of 70%, or when rainfall infiltrates stored feed, it generates leachate with acids and sugars that are corrosive to exposed concrete and metal surfaces and can kill vegetation. Of the 121 permitted facilities in the state, nearly all store feed but only 10 are subject to the requirements for storage of high moisture feed.

Other than the requirement in ATCP 51.20(3), the current rule does not impose structural and management practices that might control discharges and runoff from feed storage. For example, a landowner is not required to divert clean water or cover storage to limit water infiltration. When it comes to structural practices, costs for retrofitting existing systems may be high, particularly if subsurface collection systems must be installed. On the management side treatment areas may be maintained to assure proper flow and infiltration.

Should existing feed storage structures be required to meet certain minimum conditions to reduce runoff risks regardless of the moisture content of the feed being stored? What, if any, standards should be used to evaluate the water quality risks posed by existing storage at the time of a permit application? What, if any, structural and management requirements should apply to existing feed storage after the livestock facility is permitted? How do the following factors affect your answers to these questions: type of structure, the volume of feed stored, the type of feed stored?

6. ATCP 51 provides no guidance for conducting monitoring to determine whether engineered practices are properly operated and maintained.

Background: Under the section related to local permit approval, [ATCP 51.34\(4\)](#) makes clear that the siting rule does not limit or define a local government's authority to monitor permit compliance. The silence regarding compliance monitoring is not a reflection of the importance of this issue. Monitoring compliance is important to ensure sound management of practices and to assist in evaluation of the functional condition of a practice. Without direct guidance local governments are left on their own to determine which conditions to monitor, the type of monitoring to perform, the frequency of monitoring and the method for documenting their efforts.

Do you agree that the following recommendations are technically sound or would you make other recommendations?

Checklists are an effective tool to ensure accuracy and consistency in monitoring livestock facilities for compliance. Checklists need to be specific to either the producer, if self-certifying, or regulatory authority, if for a compliance review. Checklists should be practice specific and incorporate operation and maintenance (O&M) requirements in NRCS technical standards. For example, animal lots should follow the O&M requirements in [NRCS standard 635](#). Consideration should be given to a combination of self-certification with periodic review by an administering authority. Duplication should be avoided and existing compliance assurance measures (CAFOs) should suffice for most compliance objectives. DATCP should provide guidance and training to local authorities on checklist development and usage, and should work with these authorities to collect accurate information concerning the implementation of the siting law and the performance of permitted farms, including responding to changes in farming operations and documentation of monitoring results.