

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

|                                 |   |                     |
|---------------------------------|---|---------------------|
| IN THE MATTER OF:               | ) |                     |
|                                 | ) | R12-23              |
| CONCENTRATED ANIMAL FEEDING     | ) |                     |
| OPERATIONS (CAFOs): PROPOSED    | ) | (Rulemaking- Water) |
| AMENDMENTS TO 35 ILL. ADM. CODE | ) |                     |
| PARTS 501, 502, AND 504         | ) |                     |

**NOTICE OF FILING**

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board ILLINOIS EPA'S FIRST NOTICE COMMENTS, a copy of which is herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By: /s/Joanne M. Olson  
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Date: January 30, 2014

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PARTS 501, 502, AND 504 )

**ILLINOIS EPA'S FIRST NOTICE COMMENTS**

NOW COMES the Illinois Environmental Protection Agency, ("Illinois EPA" or "Agency") by and through its counsel, and hereby submits its Post Hearing Comments in the above captioned rulemaking.

**Procedural Background**

On November 7, 2013, the Illinois Pollution Control Board ("Board") filed its Opinion and Order in the above captioned rulemaking. This Order contained the amendments to Parts 501, 502, and 504 to be published in the Illinois Register. See Op. and Ord. at 257-328. The Secretary of State published the Board's Notice of Proposed Amendments in the Illinois Register, Issue 48, Volume 3, pages 18974-19081, December 2, 2013. The version published in the Illinois Register is not identical to the Board's Order and Opinion. The comments contained herein are based on the Board's Order and Opinion, unless otherwise stated. The First Comment period specified in the Notice of Proposed Amendments ends on January 16, 2014.

**Comments**

**A. Case-by-Case Designations**

In the Opinion and Order, the Board found that the Illinois EPA's proposed Section 502.106 is consistent with the federal rule found in 40 C.F.R. §122.23(c). See Op. and Ord. at 174. The Board, however, then proposes one change to proposed Section 502.106 and one additional question regarding designation. First, the Board gives a designated CAFO the ability

to appeal the Agency's interim designation decision: "The owner or operator may file an appeal of the Agency's decision with the Board within 35 days after the date on which the Agency served the decision pursuant to Section 40(a) of the Act and 35 Ill. Adm. Code 105." Second, the Board posed a question to the parties as to whether designated CAFOs should be given 90 days from the date of designation to apply for a permit.

**1. Appeal**

The Agency believes the Board erred in giving designated CAFOs the ability to immediately appeal their designations. A CAFO designation is not a final decision, but the first decision in the permitting process. The issuance or denial of a permit, a final decision, may be appealed under Section 40 the Environmental Protection Act ("Act"), 415 ILCS 5/40 (2013). Conversely, non-final decisions are not appealable. 415 ILCS 5/5(d); 35 Ill. Adm. Code 101.106(b). The Act and Board's rules provide: "The Board shall have the authority to conduct proceedings . . . upon other petitions for review of final determination which are made pursuant to the Act or Board rules and which involve a subject which the Board is authorized to regulate." The parties do not contest that the Agency's designation is not final. Counsel for the Agricultural Coalition, under oath, testified that after a CAFO is designated, the Agency may determine, through a review before a permit is issued, that no permit is actually required. (Hearing Transcript, October 23, 2012, p. 158-159).

Under the Federal NPDES rules, designated CAFOs do not have immediate appeal rights, but can appeal the designation as a part of a NPDES permit appeal. Section 124.52 of the Code of Federal Regulations provides:

- (a) Various sections of part 122, subpart B allow the Director to determine, on a case-by-case basis, that certain concentrated animal feeding operations (§122.23), concentrated aquatic animal production facilities (§122.24), storm water discharges (§122.26), and certain other facilities covered by general permits

(§122.28) that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

- (b) Whenever the Regional Administrator decides that an individual permit is required under this section, except as provided in paragraph (c) of this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under §122.21 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. *The question whether the designation was proper will remain open for consideration during the public comment period under §124.11 and in any subsequent hearing.*
- (c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (see §122.26(a)(1)(v), (c)(1)(v), and (a)(9)(iii) of this chapter), the Regional Administrator may require the discharger to submit a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit within 180 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under §124.11 and in any subsequent hearing.

40 C.F.R. §124.52 (2013)(emphasis added). During the permitting process under the federal rules, the question of whether a designation is proper is open for consideration during the permitting process. The Illinois EPA agrees with the federal rules that the initial designation is not final and remains “open” during the permitting process. When the designation question remains open, the Agency will accept public comments on the designation question and may hold a public hearing on the matter consistent with Subtitle C of the Board’s regulations. Under the federal approach, a designated CAFO is given the opportunity to build a record supporting its assertion that it should not be designated. This results in a complete record on appeal, and an informed decision by the Agency. Most importantly, following the federal rule circumvents premature appeals.

If immediate appeal rights are given to designated CAFOs under the rules proposed by the Board, the Agency believes the record on appeal would be limited to the information before the Agency, most likely a field report, when it sent the notice of designation. The designated CAFO would be unable to present evidence to the Board that it has fixed the problems that resulted in the CAFO being a significant contributor of pollutants to waters of the United States, or evidence that it has eliminated its discharge because such information was not before the Agency when it made its designation.

The Agency believes the proposed process of designation should be modified to allow animal feeding operations (AFOs) an opportunity to present evidence to the Agency on the question of whether the AFO is a significant contributor of pollutants to waters of the United States before a designation is made. Additionally, the Illinois EPA believes language stating that the designation question is open for consideration throughout the permitting process should be included in Section 502.106. Finally, the Agency strongly urges the Board to remove the interlocutory appeal from this section in light of the Agency's proposed additions.

The Agency proposes the following amendment (double underline/strikethrough) to Section 502.106:

**Section 502.106 Case-By-Case ~~Case-by-case~~ Designation Requiring NPDES Permits**

- a) Notwithstanding any other provision of this Part, the Agency may require any a~~a~~Animal f~~f~~eeding e~~e~~Operation not falling within Sections ~~502.102~~, 502.103 or 502.104 to obtain an~~an~~ NPDES permit by designating the Animal Feeding Operation as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States. In making ~~such designation~~ the determination of whether the Animal Feeding Operation is a significant contributor of pollutants, the Agency shall consider the following factors:
  - 1) The size of the a~~a~~Animal f~~f~~eeding e~~e~~Operation and the amount of livestock wastes reaching navigable waters of the United States;

- 2) The location of the ~~a~~Animal ~~f~~Feeding ~~o~~Operation relative to navigable waters of the United States;
  - 3) The means of conveyance of ~~livestock animal wastes and process wastewaters~~ into navigable waters of the United States;
  - 4) The slope, vegetation, rainfall and other factors relative to the likelihood or frequency of discharge of ~~livestock waste animal wastes and process wastewaters~~ into navigable waters of the United States; and
  - 5) Other such factors bearing on the significance of the pollution problem sought to be regulated.
- b) The Agency, however, may not require a permit under ~~subsection (a) paragraph a) of this Section~~ for any ~~a~~Animal ~~f~~Feeding ~~o~~Operation with less than the number of animals ~~units (300)~~ set forth in Section 502.104 above, unless it meets either of the following conditions:
- 1) Pollutants are discharged into navigable waters of the United States through a man-made ditch, flushing system or other similar man-made device; or
  - 2) Pollutants are discharged directly into navigable waters of the United States which originate outside of and pass over, across, through or otherwise come into direct contact with the animals confined in the operation.
- c) In no case may a permit application be required from an ~~a~~Animal ~~f~~Feeding ~~o~~Operation designated pursuant to this section until there has been an onsite inspection of the operation and a determination that the operation should and could be regulated under the permit program. ~~In addition, no application may be required from an owner or operator of an animal feeding operation designated pursuant to this section unless the owner or operator is notified in writing of the requirement to apply for a permit.~~
- d) Prior to designating an animal feeding operation as a CAFO, the Agency shall send the Animal Feeding Operation a written notice that it intends to designate the Animal Feeding Operation as a CAFO. The notice shall include grounds for the designation and information regarding the opportunity to request a meeting with the Agency within 90 days of the Animal Feeding Operation's receipt of the notice to present evidence that it is not a significant contributor of pollutants to waters of the United States as provided in subsection (a) of this Section. Beginning 90 days after the initial written notice is received by the Animal Feeding Operation, the Agency may designate the Animal Feeding Operation as a CAFO. The Agency shall send the Animal Feeding Operation written notice of its designation decision and the grounds for the designation in writing.

- e) Upon receipt of the Agency's designation decision notification that an NPDES permit is required pursuant to this Section, paragraph b) the owner or operator shall make an NPDES permit application to the Agency within 90/60 days. The Agency may issue an NPDES permit with a compliance schedule detailing interim steps to be taken along with a final date, not to exceed 14 months from the date the permit is issued, by which compliance with the Act and all applicable regulations shall be achieved.
- f) The question of whether the designation was proper will remain open for consideration during the pendency of the permit application. Any appeal of the Agency's designation decision must be made as a part of an NPDES permit appeal.
- ~~e) The Agency will notify the owner or operator in writing of the Agency's decision to designate the Animal Feeding Operation as a CAFO under this Section and the grounds for the designation. The owner or operator may file an appeal of the Agency's decision with the Board within 35 days after the date on which the Agency served the decision pursuant to Section 40(a) of the Act and 35 Ill. Adm. Code 105. No animal feeding operation may be required to have a permit if it discharges only in the event of a 25 year 24 hour storm event.~~

The Agency believes that a designated CAFO can appeal the permit on the basis that it should not be a designated CAFO. Furthermore, if a designated CAFO chooses not to apply for a permit, the designation can be challenged in an enforcement proceeding. The Board's creation of an appeal right from a non-final decision adds an unneeded and improper layer of administrative process.

## **2. When must a CAFO seek permit coverage after designation?**

As the Board notes in its Order and Opinion, the 2008 federal CAFO rule provided designated CAFOs with 90 days after receiving notice of the designation to apply for a permit. 40 C.F.R. §122.23(f)(5). The Agency's proposal reflected this same time period. USEPA amended the 2008 Rule without opportunity for comment in "National Pollution Discharge Elimination System Permit Regulation for Concentrated Animal Feeding Operations: Removal

of Vacated Elements in Response to 2011 Court Decision” 77 Fed. Reg. 44494 (July 30, 2012).

USEPA explains the deletion in its preamble:

Today’s action also deletes the timing requirements in 40 CFR 122.23(f) related to when CAFO owners and operators must seek coverage under an NPDES permit. Those provisions extended the time by which facilities newly required to obtain NPDES permits must apply for a permit. The date specific deadlines in those sections have passed. The revision clarifies that all CAFOs must have a permit at the time they discharge.

77 Fed. Reg. 44495. The new federal rule replaces all of §122.23(f) with the following language: “A CAFO must be covered by a permit at the time that it discharges.” Once the AFO is designated as a CAFO, any discharge from the designated CAFO is unauthorized until a permit is issued. Therefore, upon designation, the CAFO must stop discharging until it has obtained an NPDES permit.

The Illinois EPA believes the 90 day time frame provided in its proposed rule should remain. The 90 day time period is consistent with 40 C.F.R. §124.52. Section 124.52 provides: “the discharger must apply for a permit under §122.21 within 60 days of notice, *unless permission for a later date is granted by the Regional Administrator.*” 40 C.F.R. §124.52(b)(emphasis added). The 60 day deadline in the federal rule is open to extension.

If a permit application deadline is included in the Board’s rule, it should be included with the understanding that the designated CAFO will not be authorized to discharge from the time of designation until a permit has been issued. The Agency requests the deadline to remain in place because newly designated CAFOs should apply for a permit as soon as possible.

**B. NPDES Permit Requirement Language Section 502.101(b)**

The Board’s proposal does not include language proposed by the Agency in Section 502.101(b). The Agency’s purpose in including this language was to clarify when a permit is necessary. The language the Board struck from the Agency’s proposal is as follows:



- b) The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges, ~~provided that:~~
- 1) ~~A past discharge from a CAFO does not trigger a duty to apply for a permit if the conditions that gave rise to the discharge have been corrected and the CAFO modified its design, construction, operation or maintenance in such a way as to prevent discharges from occurring in the future.~~
  - 2) ~~No permit shall be required under this Part for any discharge for which a permit is not required under the CWA, and regulations pursuant thereto. (Section 12(f) of the Act).~~

The Issue of when a CAFO needs a permit is the most litigated provision of the federal CAFO rules. The courts struck down two prior versions of the federal CAFO rule, ultimately holding that “discharging” CAFOs must obtain a permit. Waterkeeper v. U.S. Environmental Protection Agency, 399 Fed. 3d 486, 490(2<sup>nd</sup> Cir. 2005); Nat’l Pork Producers Council, et al. v. U.S. Environmental Protection Agency, 635 F.3d 738 (5<sup>th</sup> Cir. 2011). Thereafter, USEPA modified the federal CAFO rules to clarify that a permit is needed at the time the CAFO discharges. 77 Fed. Reg. 44494 (July 30, 2012).

The question, however, remains: if a CAFO discharges once, will it forever need an NPDES permit? The Illinois EPA does not believe so. USEPA also agrees with Illinois EPA’s conclusion on this issue. See 73 Fed. Reg. 70423; Attachment 1 to SOR, James Hanlon memorandum, December 8, 2011. The Board’s regulations must codify, to the extent possible, when a past discharge will require an NPDES permit. Such a codification will provide much needed clarity to the regulated community and the Illinois EPA. Further, codifying this contested provision will reduce conflict in the permitting process, prevent changing interpretations as time passes, and ensure the Board’s intent is clearly stated and carried out.

The certainty provided by adding such provisions outweighs the burden of a possible future Board rulemaking to incorporate changes to the federal law. Additionally, even if the

stricken provisions are retained, the Board's regulations must be read in light of future federal case law and regulations. Until such time when the Board, the courts or USEPA further define the CAFO permit requirements, the Illinois EPA will implement the rules as stated in the Agency's proposed Section 502.101(b)(1) and (2). Therefore, the Illinois EPA believes Section 502.101(b)(1) and (2) are necessary provisions, and the Illinois EPA encourages the Board to include them, or the Board's modification thereto, in its Second Notice Opinion.

The Agency recommends that the Board adopt the language proposed by the Agency, or other language drafted by the Board that clarifies how to treat past discharges. In addition, the Agency now provides a simplified version of Proposed Section 502.101 for the Board's consideration.

- b) The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges.
- c) A CAFO that has had a past discharge is not required to seek coverage under an NPDES permit if the Agency determines that the conditions that gave rise to the discharge have been corrected and that the design, construction, operation or maintenance of the CAFO has been modified in such a way as to prevent discharges from occurring in the future. This subsection does not apply to repeated, sporadic or intermittent discharges.
- d) No permit shall be required under this Part for any discharge for which a permit is not required under the CWA, and regulations pursuant thereto. (Section 12(f) of the Act).

In the Agency's initial filing proposal, the rule language did not specify who determines whether a past discharge has been corrected and future discharges prevented. The Agency now suggests that the Board clarify this language by specifying that the Agency will make this determination. The Illinois EPA also suggests the Board add language clarifying that CAFOs with repeated, sporadic or intermittent discharge must obtain an NPDES permit.

**C. Software Issues****1. RUSLE2 change to RUSLE**

The Board proposes a new definition of the Revised Universal Soil Loss Equation (RUSLE). See Op. and Ord. at 31 and 268. The Board also incorporated the federal regulation that contains the same definition of RUSLE. The Agency believes the incorporation by reference is redundant and unnecessary. The Agency recommends the Board remove the proposed definition and references to RUSLE in the Parts 501 and 502. The Illinois EPA recommends the Board require the use of Revised Universal Soil Loss Equation 2 (RUSLE2) modeling software, as initially proposed by the Agency, for the reasons stated below.

The Board's proposed definition is the RUSLE form of the equation. The first version of the soil loss equation was released in the early 1960's, and was called the universal soil loss equation (USLE). In the early 1990s, the United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) released RUSLE. The equation for prediction soil loss due to erosion for both USLE and RUSLE are the same:  $A = R * K * LS * C * P$ . The Agency also notes that the RUSLE definition in proposed Section 501.360 does not include an explanation of the C factor in the RUSLE equation. All the factors (R, K, LS, C, and P) are defined in the federal rule, and factors K, LS, and C are defined differently for USLE and RUSLE. See 7 C.F.R. §610.12(b)-(3) (2013). For purposes of estimating soil loss from land considering conservation practices or for development of conservation practices and plans, the RUSLE equation is to be used pursuant to 7 C.F.R. §610.14.

The USDA–NRCS used RUSLE until the release of the RUSLE2, the latest version of the soil loss equation, in 2003. Attachment A, RUSLE2 at 1<sup>1</sup>. The USDA–NRCS implemented the use of the RUSLE2 equation for conservation planning in January 2004 to replace the RUSLE equation. See Attachment A at 2. “RUSLE2 is an advanced, user-friendly software model that predicts long-term, average annual erosion by water.” Id. at 1. The RUSLE2 equation uses revised factors from the previous versions of RUSLE and USLE. The RUSLE2 equations use daily factors for most of its terms whereas RUSLE uses factors averaged for a period of bi-monthly or longer. See Draft Users Reference Guide – Revised Universal Soil Loss Equation – Version 2, December 22, 2004.<sup>2</sup> The RUSLE2 Users Guide states that the RUSLE2 equation is:

$a_i = r_i * k_i * l_i * S * c_i * p_i$  where  $a_i$  = average annual soil loss for the  $i$ th day,  $r_i$  = erosivity factor,  $k_i$  = soil erodibility factor,  $l_i$  = soil length factor,  $S$  = slope steepness factor,  $c_i$  = cover management factor,  $p_i$  = supporting practices factor, all on the  $i$ th day. The slope steepness factor  $S$  is the same for every day and thus does not have a subscript.

Draft Users Reference Guide at 29. The RUSLE 2 equation splits the LS slope length and steepness factor into two components  $l_i$  slope length and  $S$  slope steepness. According to the RUSLE2 Users Guide, the numerical integration procedures using these daily values can result in soil loss estimates that vary as much as 15% from the values obtained using the RUSLE and USLE equations. See Draft Users Reference Guide at 31.

The specific reasons for requiring use of RUSLE2 modeling software include:

1) RUSLE2 refers to modeling software that calculates annual average soil loss using daily values. The Agency believes requiring its use is akin to other substantive requirements, and such requirements do not necessitate incorporation by reference or definition. The Agency’s proposed Section 502.620 (e) and (f) and Section 502.630(c)(4) clearly states that CAFOs must use RUSLE2 when calculating soil loss and provides a link to the software;

<sup>1</sup> Available at <ftp://ftp-fc.sc.egov.usda.gov/IA/news/RUSLE2.pdf>

<sup>2</sup> Available at [http://fargo.nserl.purdue.edu/RUSLE2\\_ftp/RUSLE2\\_Program\\_File/RUSLE2\\_UserGuide\\_12-04.pdf](http://fargo.nserl.purdue.edu/RUSLE2_ftp/RUSLE2_Program_File/RUSLE2_UserGuide_12-04.pdf)

2) The Board's proposed form of the soil loss equation (RUSLE) is not in conformance with the latest equations (RUSLE2) used by USDA-NRCS since 2004 to estimate soil loss from land or for determination of conservation practices and plans;

3) The equation proposed by the Board does not properly calculate soil loss by taking into account cover management practices; and

4) Soil loss estimates using the different versions of the equations (i.e. USLE, RUSLE, RUSLE2) will cause significant differences in the results and consequently what is required on a particular land application area to meet the livestock waste land application regulations will be different depending on which equation is used. The Agency encourages the Board to revisit the proposed changes to Sections 502.620 (e), 502.620(f), and 502.630(c)(4). The Board's proposed rules require the use of RUSLE, but the Board states in a Board note that a CAFO may use RUSLE2. The Agency recommends the Board require the use of RUSLE2 equation considering the 15% variation that is possible between RUSLE and RUSLE2. The Agency does not want a CAFO to choose between RUSLE and RUSLE2 depending on which calculation is more favorable.

However, if the Board determines that there must be a definition for RUSLE2, the Agency recommends that the following definition be used.

Section 501.600 Revised Universal Soil Loss Equation Version 2 (RUSLE2)

The equation for calculating soil loss due to soil erosion is as follows:

$$A = R * K * L * S * C * P$$

Where

A is the estimation of average annual soil loss in tons per acre per year caused by sheet and rill erosion;

R is the climate erosivity factor;

K is the soil erodibility factor, which measures the susceptibility of a soil to erode under a standard condition;

L is a slope length factor, which accounts for the effect of length of slope on erosion;

S is the slope steepness factor, which accounts for the effect of slope steepness on erosion;

C is the cover management factor; and

P is the support practice factor, which accounts for the effect of conservation support practices, such as cross-slope farming, strip cropping, buffer strips, and terraces on soil erosion.

The factors A, R, K, L C and P are daily factors in RUSLE 2. The RUSLE2 equation sums the daily soil loss over a year using the sum of the equation  $a_i = r_i * k_i * l_i * S * c_i * p_i$  to determine annual soil loss. Subscript i represents the value for the ith day in the RUSLE2 equation. S is a constant and is the same each day. The Revised Universal Soil Loss Equation 2 (RUSLE2) software program and support documentation is available at [http://fargo.nserl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_Index.htm](http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm)

Finally, the Board changed the Agency's proposal to "comply with the Illinois Administrative Procedures Act" (IAPA). See Op. and Ord. at 31. The Agency does not believe requiring the use of a certain type of software or its equivalent is in violation of the IAPA. The requirement to use certain specific software is a straight forward substantive requirement and does not require incorporation by reference. Incorporation-by-reference is a tool that an agency can use to impose the requirements contained in other rules, standards or guidelines, without repeating the requirements in full. The following is an example when incorporation by reference is required:

**Example 1: The applicant shall comply with the requirements in Document X.**

This example, Document X contains specific requirements (Y), and must be incorporated by reference. An agency could decide not to incorporate document X, and instead directly set forth, in full, the procedural requirements (Y):

**Example 2: The applicant shall do (Y).**

The second example does not require incorporation by reference of Document X. The Agency believes the substantive requirement to use a particular software is the same as Example 2, not Example 1 above. In the Agency's proposed rule, using the RUSLE2 software is the substantive requirement. Further, the IAPA does not prohibit an agency from requiring the use of certain technology, such as modeling software. The Board has required the use of particular modeling methods before. See 35 ILCS 742.110(c) ("A Tier 2 evaluation uses the risk based equations from the Soil Screening Level (SSL) model, Risk Based Corrective Action (RBCA) model and modified Johnson and Ettinger (J&E) model.") Additionally, other agencies have required the use of particular software. See 20 Ill. Adm. Code 1240; 14 Ill. Adm. Code 1400; 89 Ill. Adm. Code 152.300.

**2. AMW and SPAW modeling software in Section 502.840**

The Board removed two other pieces of software to "comply with the APA". Op. and Ord. at 105-106. In subsection 502.840(b) the Board deleted the Agency's proposed use of the Animal Waste Management (AWM) software, created and supported by the USDA-NRCS. AWM software is used to estimate the production of manure, bedding and process water and determine the size of storage facilities. In proposed subsection 802.840(f), the Board deleted the Agency's proposed use of the Soil-Plant-Air-Water (SPAW) Field and Pond Hydrology Model software, developed by USDA Agricultural Research Service. As proposed by the Agency, the SPAW model must be used to determine the adequacy of the manure storage structure. The

Illinois EPA strongly objects to both changes by the Board, and recommends the Board reinstate the software proposed by the Agency.

In place of the software suggested by the Agency, the Board requires permittees to design and evaluate the adequacy of the open livestock waste storage structure in accordance with the Animal Waste Management Field Handbook (“Handbook”), published by the USDA–NRCS. The Handbook consists of 15 Chapters, all of which are revised independently. For example, Chapter 15 was issued in 2010, whereas Chapter 11 was issued in 2013. The Board’s incorporation by reference refers to a 2009 version of the Handbook. The Illinois EPA is unsure why the Board elected to exclude all chapter revisions that occurred after 2009. If the Board decides to keep this reference in the regulations, the reference should be updated to the latest version or otherwise made clear as to the versions applicable to the proposed regulations.

In addition to all the Chapters being individually revised, the Handbook has other issues complicating the Board’s use in the proposed regulations. First, the Handbook is at least 500 pages long, covering a large array of topics which include siting, geology, land application, and facility design. It is unclear how the numerous suggestions and requirements contained within the entire Handbook apply to permitted facilities by virtue of the Board’s incorporation by reference. Furthermore, the Handbook lacks definite standards and requirements that must be met. Instead, the Handbook contains a large number of suggestions. For example, in Chapter 10, Agricultural Waste Management System Component Design, the handbook provides: “storage ponds and structures *should* be sized to hold all the manure, bedding, washwater from the milkhous; flushing; and contaminated runoff that can be expected during the storage period.” See Handbook at 10-28 (emphasis added). The Handbook also contains an equation to compute the waste volume, but its use is not required: “Equation 10-3 *can* be used to compute



the waste volume.” Id (emphasis added). All the equations to calculate storage volume are suggestions. See Handbook, Equations 10-1, 10-2 and 10-3. The Agency is unsure whether Worksheet 10A-2 is required or optional. See Handbook at 10-33.

The Handbook has a one paragraph summary of SPAW, but does not require its use. Handbook at 15-2. Illinois EPA stresses that the Board’s requirement that permittee use the Handbook in proposed Section 502.840(f) is not the same substantive requirement as the Agency’s requirement that the permittee use SPAW. The federal CAFO regulations require permittees to use the SPAW model to conduct the evaluation of the livestock waste storage design developed using AWM model. 40 C.F.R. §412.46(a)(1)(vi). SPAW software can perform a one-dimensional water budget on agricultural fields using daily values. Id. The daily field conditions can be simulated in SPAW and used to determine when land application would be allowed and the rates of application allowed that will not cause runoff. The federal regulations require all of the following inputs to SPAW:

- From climate records, daily maximum temperature, daily minimum temperature, daily precipitation, and daily evaporation;
- For the land application fields soil layers data from a soil survey to a depth of 60 inches. For each soil layer, the depth, soil texture, organic matter content, and bulk density data;
- For the watershed area tributary to a livestock waste storage structure runoff curve numbers and area for estimating runoff to the livestock waste storage structure;
- Crop characteristics at the land application site; and,
- Scheduling and pumping rates for removal of waste from the livestock waste storage structure.

40 C.F.R. §412.46 (a)(1)(vi)

The Handbook does not provide a detailed description or method of conducting a simulation of projected daily levels of livestock waste in the storage structures to determine if an

open livestock waste storage structure would overflow due to chronic or acute periods of above normal precipitation. The methods used in the Handbook to develop a design are based on monthly values for inputs. The Handbook does not provide a method for determining field conditions and livestock waste storage on a daily basis using daily values for precipitation, evaporation, and storage structure inputs and outputs. The Handbook does not require the inputs that are required for SPAW. Therefore the proposed regulations by the Board setup a different criteria than the federal CAFO regulations.

The Board should require the use of the AWM software and SPAW model software in the regulations as proposed by the Agency to clarify the substantive requirements on permittees and to ensure conformity with the federal regulations applicable to these facilities. In addition, the Board should reinstate the following language deleted from proposed Section 502.840(b): "CAFOs may use equivalent design software or procedures as approved by the Agency".

If the Board disregards the Agency's request to require the use the AWM and SPAW software (or equivalent), the Agency has two further recommendations. First, the Board should consider referencing the federal rule instead of the Handbook. The rule language would be as follows:

- b) the design of the livestock waste storage structure as determined in accordance with 40 C.F.R. §412.46(a)(1)(ii), incorporated by reference in Section 502.100(a). CAFOs may use equivalent design software or procedures as approved by the Agency.
- ...
- f) an evaluation of the adequacy of the designed manure storage structure as required by 40 C.F.R. §412.46(a)(1)(vi), incorporated by reference in Section 502.100(a).

Second, if the Board decides not to reinstate the Agency's proposal, or the language referencing the federal rule above, the Board should specify which Chapters of the Handbook should be used

in determining the design and evaluating the adequacy of the open livestock waste storage structure.

**D. Landscape Waste Composting**

In the Order and Opinion, the Board requested comments on changes to the Act based on Public Act 98-484. Section 21(q)(3) of the Act provides a permit exemption for on-farm landscape waste composting facilities. These facilities will not be required to obtain a permit if they, *inter alia*, accept no materials for composting from other agricultural operations other than crop and plant residue and plant derived animal bedding that is free from manure. 415 ILCS 5/21(q)(3)(A-1)(2013). The Illinois EPA does not believe the definitions of livestock waste and manure in Subtitle E need to be changed, or that Public Act 98-484 warrant other amendments to the Board's first notice proposal.

The word "manure" in Section 21(q)(3)(A-1) does not have the same meaning as "manure" or "livestock waste" under the Board's proposed amendments. Both of these terms are defined very broadly. Manure, in both the Board's proposal and the federal rule, is defined to include animal bedding, and anything commingled with animal excrement. See Proposed Section 501.312; 40 C.F.R. §122.23(b)(5). Livestock waste, defined in the proposed regulations and the Livestock Management Facilities Act, 510 ILCS 77/10.35, includes materials polluted by livestock. The Agency believes that legislature did not intend "manure" in Section 21(q)(3)(A-1) to be as broadly defined as it is in the Board's proposal for two reasons. First, the rules of statutory construction suggest otherwise, and second, to read manure as broadly as the Board has defined it in the proposed amendments to Subtitle E lead to an absurd result.

In interpreting provisions of a statute, the primary goal is to ascertain and give effect to the intention of the legislature. Reis v. City of Chicago, 242 Ill. 2d 205, 215-216 (2011). Words

should be given their ordinary meaning, unless a different or specific meaning is intended by the legislature. People v. Randle, 183 Ill. App. 3d 146, 147 (1989). Words that are not defined must be assigned their common usage. Watkins v. Steiner, 2013 Ill. App. (5th) 110421-U. The Act does not define manure. Merriam Webster on-line dictionary defines manure as "solid waste from farm animals that is used to make soil better for growing plants." See <http://www.merriam-webster.com/dictionary/manure> (Accessed December 23, 2013). Another dictionary defines manure as "animal dung, compost or other material used to fertilize soil." American Heritage Dictionary (2<sup>nd</sup> ed 1991). The legislature intended the common, ordinary meaning of "manure" in Section 21(q)(3)(A-1) -- solid animal waste or animal dung.

If the definition of manure found in the Board's proposed rule was applied to Section 21(q)(3)(A-1), subsection (A-1)(ii) becomes absurd. Subsection (A-1)(ii) provides that "plant-derived animal bedding such as straw or saw dust, that is free of manure and was not made from painted or treated wood" can be used by on-farm landscape waste operations without triggering a permit requirement. The Board's definition of "manure" includes bedding, and if this definition was used to interpret Section (A-1)(ii), one would be forced to conclude that plant-derived animal bedding cannot be used. This is the opposite of what the legislature intended.

The Illinois EPA does not believe the Board's definitions in Subtitle E effect undefined terms in the Act, and therefore, does not believe changes to the Board's proposal are necessitated by Public Act 98-484.

#### **E. Off-site Land Application and Waste Transfer**

In the Opinion, the Board states that it has amended Section 502.510(b)(2) by adding examples of adequate land application areas:

Adequate land application area for livestock waste application, which may include (i) land owned by the CAFO owner or operator, (ii) land rented by the CAFO, (iii) land

covered by a consent agreement between the CAFO owner or operator and the property owner, or (iv) any combination of land described in subsections (i), (ii) and (iii).<sup>3</sup>

Op. and Ord. at 190. In the Order, the Board amends Section 502.510(b)(2) as follows:

Adequate land application area for livestock waste application which may include (i) land owned by the CAFO owner or operator, (ii) land leased by the CAFO, (iii) land covered by a consent agreement between the CAFO owner or operator and the property owner, or (iv) any combination of the above.

Op. and Ord. at 295. The Illinois EPA believes the Board should be consistent in Section 502.510(b)(2)(ii). In the Opinion version of this subsection, the Board includes land “rented” by the CAFO, and in the Order version of this subsection, the Board includes land “leased” by the CAFO. Considering the definition of “land application area” in Section 501.267 includes both land rented or leased, the Agency proposes subsection (b)(2)(ii) read as follows: “land rented or leased by the CAFO.”

#### **F. Erosion Factor T**

The Board requests the Illinois EPA and other participants to comment on the Board’s proposed changes to the definition of Erosion Factor T and whether the Web Soil Survey or any other material is capable of incorporation by reference. The Agency agrees with the Board’s changes to the definition of Erosion Factor T, but does not believe that the Board Note should include the Natural Resources Conservation Service’s (NRCS) webpage. The Illinois EPA attempted to access the webpage listed in the Board’s Note, but the webpage has been deactivated. The Agency had provided a different website that contained the county soil survey information in its prefiled answers on August 14, 2012. This website has also been deactivated.

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<sup>3</sup> The Illinois EPA notes the version published in the Illinois Register does not number the subsections in the same manner as the Board’s order.

Given the instability of referring to NRCS's webpage, the Illinois EPA believes the Board Note should read as follows: "Erosion Factor T for Illinois Soils is available from the United States Department of Agriculture Natural Resources Conservation Service."

The Illinois EPA also believes the definition in the proposed rules is sufficient, and does not recommend incorporation by reference of each soil survey for each county in the state.

**G. Comments on the Notice of Proposed Amendments Published in the Illinois Register, December 2, 2013**

Part 501: Table of contents: The table of contents entry for Section 501.225 in the Board's Opinion and Order is "Animal Feeding Operation." This was changed in the version published in the Illinois Register to "Animal Feeding Operations."

Section 502.101(a): The Board's Opinion and Order uses the acronym "CAFO" in Section 502.101(a). "CAFO" was changed to "controlled animal feeding operation". The term "controlled" is incorrect and should be changed to "concentrated".

Section 502.500: In the version of the rule published in the Illinois Register, the phrase "developed by the CAFO owner or operator" was added after the phrase "nutrient management plan": The rule, as proposed the Board in its Opinion and Order, does not require the nutrient management plan to be developed by the CAFO owner or operator. Instead, the nutrient management plan could be developed by an engineer or certified nutrient management planner. The permitted CAFO must specify in the nutrient management plan and in the annual report who developed the nutrient management plan. See proposed sections 502.505(d) and 502.325(b)(6). This additional phrase "developed by the CAFO owner or operator" should be stricken.

Section 502.515(d)(3): In the Board's Opinion and Order, a CAFO using the linear approach is required to calculate the maximum amount of livestock waste that can be land

applied at least once a year using the results of the most recent livestock waste tests for nitrogen and phosphorus taken within 12 months of the date of land application. The Board's rule in Section 502.515(d)(3) was changed to require the calculations to be done with tests taken 12 months after the date of land application. Livestock waste cannot be tested after land application. The proposed rule language should be changed to match the language in the Board's Opinion and Order, page 298.

Section 502.515(e)(3)(B): In the Board's Opinion and Order, a CAFO using the narrative approach is required to calculate the maximum amount of livestock waste that can be land applied at least once a year. These calculations must use most recent livestock waste tests for nitrogen and phosphorus taken within 12 months of the date of land application. The Board's rule in Section 502.515(e)(3)(B) was changed to require the calculations to be done with tests taken 12 months after the date of land application. Livestock waste cannot be tested after land application. The proposed rule language should be changed to match the language in the Board's Opinion and Order, page 301.

**H. Comments in Response USDA-NRCS Comments filed December 22, 2013**

The Illinois EPA has reviewed USDA-NRCS' comments and provides the following comments in response.

Sections 501.200 (a) and 502.510. The USDA-NRCS suggests the Board consider using USDA-NRCS's latest version of the Illinois NRCS 590 standard and associated tools for development of nutrient management plans. This standard was adopted in December 2013. The USDA-NRCS proposal does not specify how this standard and associated tools are to be added to the Board's proposed rule or whether these new Illinois NRCS 590 standards and tools are different or the same as the Board's proposed rule. USDA-NRCS's comments do not provide a

basis for this proposed change to the Board's proposed rule. The rules proposed by the Agency regarding land application of livestock waste were developed with participation of a workgroup that included USDA-NRCS personnel. Elements of the proposed regulation may be consistent with a number of the provisions of new Illinois NRCS standard 590. The requirements of the Board's proposed rule and 590 standards both may apply to a particular livestock waste management facility's land application area. However if there are inconsistencies between the Board's proposed rule and the 590 standard, the 590 standard can be modified as needed by USDA-NRCS. Based on these reasons the Agency does not see a basis to make revisions to add USDA-NRCS 590 standards and tools to the Board's proposed rules and recommends that the Board not adopt these changes.

Section 501.404 (d) Runoff Field Application Systems. In their first bullet point, the USDA-NRCS suggests that the runoff field application systems be allowed for use at uncovered feed storage areas, giving an example of hay bales. The Board's proposal at Section 501.404(d) allows the use of these systems at livestock management facilities that are not CAFOs. Livestock management facilities that are not CAFOs and are smaller than a medium CAFO can meet the criteria to use these systems under the Board's proposal. The Agency cautions that use of the runoff field application system for controlling runoff from feed storage areas that contain silage will likely require design and operation considerations to address the relatively high concentrations of pollutants that can be generated from silage as compared to typical open feedlot runoff.

The USDA-NRCS requests in its second bullet point that more than one runoff field application system be allowed to be installed at a livestock management facility. The Board's



proposed rule allows the installation of more than one runoff field application system at livestock management facilities that are not CAFOs.

Last, the USDA-NRCS suggests that facilities that are a medium CAFO pursuant to Section 502.104 be allowed to install the runoff field application system to control runoff, so long as the facility would not meet the definition of CAFO after the system is operational. Runoff field application systems at large or medium CAFOs that discharge are subject to NPDES permit requirements. Runoff field application systems under Section 501.404 for non-CAFOs have different requirements than found in proposed Part 502 for large or medium CAFOs. Therefore, an unpermitted runoff field application system that discharges at a medium sized facility may cause that facility to be defined as a medium CAFO. This CAFO would not meet Part 502, and the CAFO would be discharging without the required CAFO NPDES permit. Therefore, the proposed Board rule ensures that facilities will not install runoff field application systems that subsequently discharge, causing the facility to need a NPDES permit that has a different set of livestock waste storage, handling and land application requirements. TSD at 3 and SOR at 38. Based on these reasons the Agency recommends that the Board not adopt the USDA-NRCS's proposed changes to Section 501.404(d) regarding eligibility of the runoff field application systems.

Section 502.615(c)(6) Nutrient Transport Potential. The USDA-NRCS comments that the intent of this provision is to allow land application within 200 feet of surface water if the livestock waste is incorporated within 24 hours of application or injected. The Board's proposal at Sections 502.615(c)(6) and 502.645 do not state this intent. Rather the Board's proposed Section 502.645 prohibits land application of livestock waste within 200 feet of surface waters and Section 502.615(c)(6) requires injection or incorporation within 24 hours of livestock waste

land application on fields that are within 200 feet of surface waters or contain surface waters within the field. The federal rules require a minimum 100 feet setback from surface waters or a 35 feet vegetative buffer between the land application area and surface waters unless alternative conservation practices provide equivalent pollution reduction to the 100 feet setback as demonstrated by the CAFO. In addition, the 200 feet setback from surface waters is derived from Section 20(f) of the Illinois' Livestock Management Facilities Act, 510 ILCS 77/20 (2013). See TSD at 55-56. For the above reasons, the Agency does not support the USDA-NRCS's proposed changes to allow land application within 200 feet of surface waters and recommends that the Board not adopt the USDA-NRCS's proposed changes.

WHEREFORE, The Illinois EPA respectfully submits these comments, and requests the Board to proceed expeditiously to Second Notice.

Respectfully submitted,


ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

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# RUSLE2

 NRCS Natural Resources  
Conservation Service

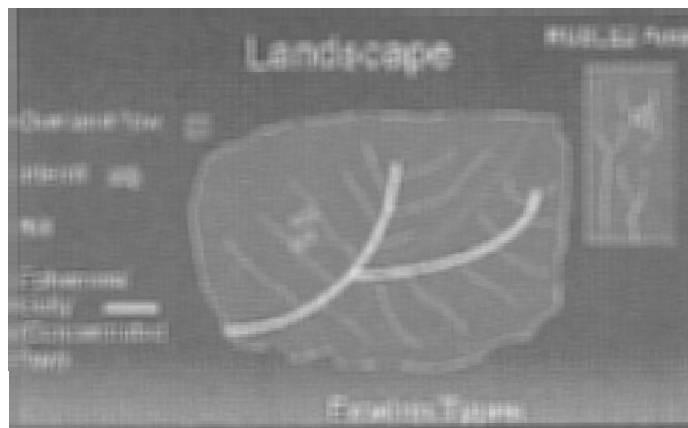
## Revised Universal Soil Loss Equation 2

### What is RUSLE2?

Released in 2003, the Revised Universal Soil Loss Equation 2 (RUSLE2) estimates soil loss from rill and interrill erosion caused by rainfall on cropland. RUSLE2, like its predecessors, RUSLE and USLE, is used to predict the long-term average rate of rill and interrill erosion for several alternative combinations of crop system and management practice. It also considers specified soil types, rainfall patterns, and topography. When these predicted losses are compared with soil loss tolerances, RUSLE2 provides specific guidelines for effective erosion control.

### What is rill and interrill erosion?

Rill and interrill erosion is the removal of layers from the land surface by the action of rainfall and runoff. Erosion begins with the impact of raindrops, detaching soil particles and moving them across the surface. This process causes interrill erosion (sometimes called sheet erosion). Runoff from interrill erosion will collect and form rills across the hill slope. Sediment from rill and interrill erosion is transported down slope to where it slows enough to be deposited on the land surface or deposited directly into concentrated flow channels.



### How does RUSLE2 work?

RUSLE2 is an advanced, user-friendly software model that predicts long-term, average-annual erosion by water. It runs in a Windows environment, and can be used for a broad range of cropland, hayland, pasture, construction, and forestry sites.

Developed jointly by the USDA-Agricultural Research Service (ARS), the USDA-Natural Resources Conservation Service (NRCS), and the University of Tennessee, RUSLE2 was written primarily to guide conservation planning, inventory erosion rates and estimate sediment delivery. RUSLE2 is an erosion prediction tool that will be used by NRCS for all conservation planning. Values computed by RUSLE2 are supported by accepted scientific knowledge and technical judgment, are consistent with sound principles of conservation planning, and result in effective conservation plans for control of erosion.

### Who will use RUSLE2?

NRCS staff and partners will be the primary users of RUSLE2. However, Technical Service Providers (TSP) may be using RUSLE2 as they assist NRCS in Nutrient Management Plans and other TSP Farm Bill Program assistance.

#### RUSLE2

#### Predicting Rainfall Erosion Losses

$$A = RKLSCP$$

**A** = average annual soil loss from rill and interrill erosion caused by rainfall and its associated overland flow expressed in tons/acre/year

**R** = climate erodibility

**K** = soil erodibility measured under a standard condition

**L** = slope length

**S** = slope steepness

**C** = cover management

**P** = support practices

# RUSLE2

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## How did RUSLE2 evolve?

RUSLE2 has evolved from a series of previous erosion prediction technologies.

The *USLE (Universal Soil Loss Equation)*, released in the early 1960s, is an index-based, empirically derived equation limited in its application to conditions where experimental data are available for deriving factor values.

A major advancement in *RUSLE*, released in the early 1990s, was the use of subfactor relationships to compute C (cover management) factor values from basic features of cover management systems. While *RUSLE* retained the basic structure of *USLE*, process-based relationships were added where empirical data and relationships were inadequate, such as computing the effect of strip cropping and for modern conservation tillage systems.

## What is new about RUSLE2?

- ¥ Most of the factors and relationships have been revised.
- ¥ New county-specific climate data is based on more current data collected at weather stations.
- ¥ The RUSLE2 model calculates soil loss for every day of the year. The final calculation (average annual soil loss) is the sum of all daily values.
- ¥ RUSLE2 includes new methods for handling residue, including resurfacing of residue by implements like field cultivators.
- ¥ RUSLE2 has a new, modern graphical user interface, making the model easy to use, but extremely powerful in the information that it displays and the types of situations that it can represent.
- ¥ Validation of RUSLE2 is proved by 10,000 plot years of data from natural runoff plots and 2,000 plot years of rainfall simulated plots.

## When will RUSLE2 be implemented?

All offices will use RUSLE2 for conservation planning beginning January 2004. Field offices were initially trained on the program in April 2003.

Refresher training is being offered on an as needed basis. This new erosion prediction tool will be used by NRCS staff for conservation planning, Farm Bill Programs, inventories, and estimating sediment production for watershed structures.

## Where can I get information on the RUSLE2 computer program?

Additional information on the RUSLE2 computer program can be downloaded from the RUSLE2 website:

[fargo.nsrcl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_index.htm](http://fargo.nsrcl.purdue.edu/rusle2_dataweb/RUSLE2_index.htm)

The website includes:

- ¥ About RUSLE2
- ¥ RUSLE2 Program File
- ¥ NRCS Base Database
- ¥ Crop Management Templates
- ¥ Soils
- ¥ User's Guide
- ¥ RUSLE2 Tutorial



Erosion and sediment in a field in Northeast Iowa.

Photo by Lynn Belis, USDA-NRCS

**CERTIFICATE OF SERVICE**

Joanne M. Olson, Assistant Counsel for the Illinois EPA, herein certifies that she has served a copy of the foregoing NOTICE OF FILING and ILLINOIS EPA'S FIRST NOTICE COMMENTS upon persons listed on the Service List by mailing, unless otherwise noted on the Service List, a true copy thereof in an envelope duly addressed bearing proper first class postage and deposited in the United States mail at Springfield, Illinois on January 30, 2014.

By: /s/Joanne M. Olson

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