

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: )  
 )  
AGRICULTURE RELATED WATER ) R12- 23  
POLLUTION: PROPOSED ) (Rulemaking- Water)  
AMENDMENTS TO 35 Ill. Adm. Code )  
Parts 501, 502 and 504 )

ORIGINAL  
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NOTICE OF FILING

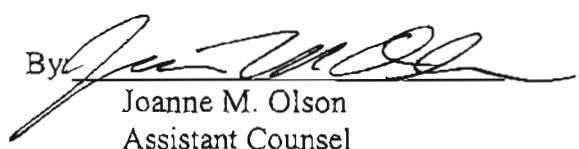
John Therriault, Clerk  
Illinois Pollution Control Board  
James R. Thompson Center  
100 West Randolph, Suite 11-500  
Chicago, Illinois 60601-3218

Matthew J. Dunn, Chief  
Environmental Enforcement/Asbestos  
Litigation Division  
Office of the Attorney General  
69 West Washington St., Suite 1800  
Chicago, IL 60602

Mitchell Cohen, General Counsel  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board the Motion for Acceptance; Appearances; Motion for Waiver of Copy Requirements; Certificate of Origination; Statement of Reasons and Attachments; and Proposed Amendments to 35 Ill. Adm. Code Parts 501, 502 and 504 by the Illinois Environmental Protection Agency, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By:   
Joanne M. Olson  
Assistant Counsel  
Division of Legal Counsel

DATED: 2/29/2012

1021 N. Grand Ave. East  
P.O. Box 19276  
Springfield, IL 62794-9276  
(217) 782-5544

**THIS FILING IS SUBMITTED ON RECYCLED PAPER**

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MAR 01 2012  
STATE OF ILLINOIS  
Pollution Control Board

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R12- 23

(Rulemaking- Water)

APPROVAL  
RELEASED BY CLERK'S OFFICE

MOTION FOR ACCEPTANCE

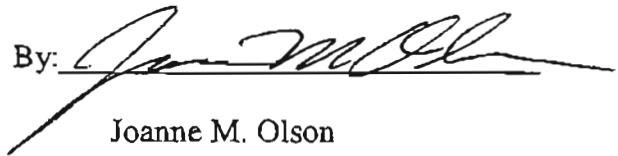
NOW COMES the Illinois Environmental Protection Agency ("Illinois EPA"), by and through its attorneys, and pursuant to 35 Ill. Adm. Code 102.106, 102.200, and 102.202, moves that the Illinois Pollution Control Board accept for hearing the Illinois EPA's proposal for the adoption of amendments to 35 Ill. Adm. Code Parts 501, 502 and 504. This regulatory proposal includes:

- 1) Notice of Filing;
- 2) Appearances of Attorneys for the Illinois EPA;
- 3) Motion for Waiver of Copy Requirements;
- 4) Certification of Origination;
- 5) Statement of Reasons (including list of attachments and documents relied on);
- 6) Attachments to the Statement of Reasons;
- 7) Proposed Amendments;
- 8) Certificate of Service;

- 9) Computer disc containing Proposed Amendments.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By: 

Joanne M. Olson  
Assistant Counsel  
Division of Legal Counsel

DATED: 2/29/2012

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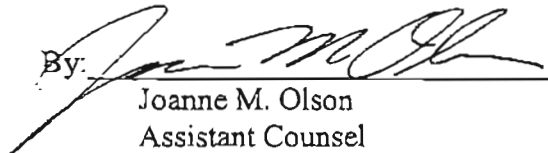
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APPEARANCE

The undersigned hereby enters her appearance as an attorney on behalf of the Illinois Environmental Protection Agency.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By:   
Joanne M. Olson  
Assistant Counsel  
Division of Legal Counsel

DATED: 2/29/2012

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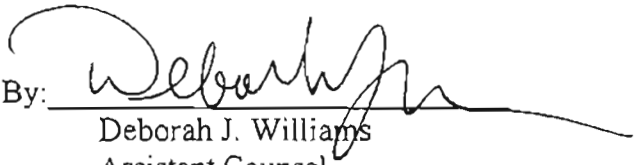
ORIGINAL  
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APPEARANCE

The undersigned hereby enters her appearance as an attorney on behalf of the Illinois  
Environmental Protection Agency.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By:   
Deborah J. Williams  
Assistant Counsel  
Division of Legal Counsel

DATED: 2/29/2012

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MOTION FOR WAIVER OF COPY REQUIREMENTS

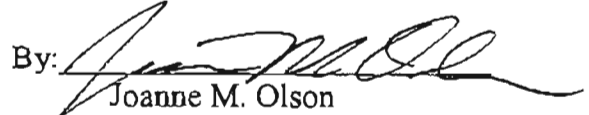
NOW COMES the Proponent, the ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ("Illinois EPA"), by one of its attorneys, and pursuant to 35 Ill. Adm. Code 101.500, 102.110 and 102.402, moves that the Illinois Pollution Control Board ("Board") waive certain requirements, namely that the Illinois EPA submit the original and nine copies of all documents upon which it relied. In support of its Motion, the Illinois EPA states as follows:

- 1) Section 102.200 of the Board's procedural rules requires that the original and nine copies of each regulatory proposal be filed with the Clerk. 35 Ill. Adm. Code 102.200.
- 2) The regulatory proposal in above captioned matter is thousands of pages in length.
- 3) Given the length of the proposal and the resources required to provide nine copies, the Illinois EPA requests that the Board waive the normal copy requirements of Section 102.200 and allow the Illinois EPA to instead file the original and four complete copies of the proposal, plus five partial copies containing the pleadings, Statement of Reasons and proposed amendments.

WHEREFORE, for the reasons set forth above, the Illinois EPA moves that the Board waives the copy requirement and allow the Illinois EPA to provide the Board with an original and four complete copies, along with five partial copies of the proposal as described supra.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By:   
Joanne M. Olson  
Assistant Counsel  
Division of Legal Counsel

DATED: 2/29/2012

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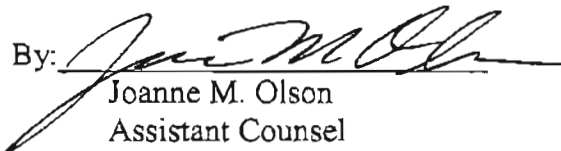
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**CERTIFICATION OF ORIGATION**

NOW COMES the ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ("Illinois EPA"), by one of its attorneys, and pursuant to 35 Ill. Adm. Code 102.202(i), the Illinois EPA certifies that the regulatory proposal in the above captioned matter amends the most recent version of Parts 501, 502 and 504 of the Illinois Pollution Control Board's regulations, as published on the Board's website.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By:   
Joanne M. Olson  
Assistant Counsel  
Division of Legal Counsel

DATED: 2/29/2012

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STATEMENT OF REASONS

NOW COMES the Illinois Environmental Protection Agency, ("Illinois EPA" or "Agency") by and through its counsel, and hereby submits this Statement of Reasons to the Illinois Pollution Control Board ("Board") pursuant to sections 12, 13, 27, and 28 of the Environmental Protection Act ("Act") (415 ILCS 5/12, 13, 27, and 28 (2010)) and 35 Ill. Adm. Code 102.200 and 102.202.

**I. INTRODUCTION**

Illinois, as an agricultural state, has numerous concentrated animal feeding operations (CAFOs). These feeding operations produce large amounts of waste that pose a substantial risk to the environment and public health if improperly handled. 68 Fed. Reg. 7179 (February 12, 2003). The agricultural sector, which includes CAFOs, crop production, and pasture and range grazing, "is the leading contributor of pollutants to identified water quality impairments in the Nation's rivers and streams." 68 Fed. Reg. 7181. The United States Environmental Protection Agency (USEPA) recognized the threat CAFOs pose to the Nation's waters and, in 2003, overhauled the federal regulatory program designed to ensure that CAFOs establish appropriate waste management practices to protect the environment and health. These 2003 amendments were successfully challenged in the United States Court of Appeals by both agricultural and environmental groups. In 2008, the USEPA again amended the CAFO rules to address the

court's decision. Illinois EPA now proposes an overhaul of its agricultural related water pollution regulations in Parts 501 and 502 to conform Illinois' regulations to USEPA's regulations. Additionally, the Illinois EPA proposes in Part 502 the state technical standards that the Federal CAFO requires the state permitting authority to develop.

## II. FACTS IN SUPPORT

In the 2003 CAFO rule preamble, USEPA found that the pollutants most commonly associated with livestock waste (manure, litter, process wastewater) include nutrients, organic matter, solids, pathogens, and odorous compounds. *See* 68 Fed. Reg. 6181. According to USEPA, more than 150 pathogens found in livestock manure are associated with risks to humans, including the six human pathogens that account for more than 90% of food and waterborne human illness. These organisms are: *Campylobacter* spp., *Salmonella* spp. (non-typhoid), *Listeria monocytogenes*, *Escherichia coli* O157:H7, *Cryptosporidium parvum*, and *Giardia lamblia*. *Id.* at 7236. Nutrient pollution includes phosphorus and various forms of nitrogen including ammonia and nitrate. These pollutants can be released into the environment through discharge or runoff if manure and wastewater are not properly handled and managed. *Id.* at 6181. Examples of pathways for livestock waste to reach the environment include surface runoff and erosion, direct discharges to surface water, spills and other dry-weather discharges, leaching into soil and ground water, and volatilization of compounds with redeposition to the landscape. *Id.* at 7236.

Nutrient pollution is a significant problem in Illinois and across the United States. Nutrient-related pollution significantly affects drinking water supplies, aquatic life and recreational water quality. *See* "An Urgent Call to Action – Report of the State-EPA Nutrient Innovations Task Group" (August 2009) at 2. With regard to aquatic life impacts, nutrient

pollution is one of the top causes of water quality impairment in the United States. *Id.* at 5. Nutrient pollution is directly linked to 20% of impaired river and stream miles, 22% of impaired lake acres and 8% of impaired bay and estuarine square miles in the United States. Nutrients are also indirectly linked to additional listed impairments related to low dissolved oxygen, impaired habitat, algal growth and noxious aquatic plants. *Id.* at 5-6.

The primary sources of nitrogen and phosphorus pollution are urban and suburban stormwater runoff, municipal wastewater treatment systems, air deposition, agricultural livestock activities, and row crops. *Id.* at 12. In contrast to the 18 million tons of human fecal material treated annually at POTWs, animal agriculture production results in the generation of more than 1 billion tons of manure each year. *Id.* This manure results in over 8 million pounds per day of nitrogen and 3 million pounds per day of phosphorus. Much of the manure is applied to farmland to provide nutrients for crops. Some of the nutrients in this applied manure end up in harvested plant tissue, but significant portions end up in the waters of the United States. *Id.* at 16.

Pathogen pollution from CAFOs and other sources is measured by the presence of indicator organisms such as *Escherichia coli* (*E. coli*), enterococci and fecal coliform. These pollutants often result in recreational use impairments. In the Agency's 2010 draft integrated report, 4,009 stream miles were assessed for primary contact use support. *See*, "DRAFT Illinois Integrated Water Quality Report and Section 303(d) List – 2010", Volume I: Surface Water (April 2010), Illinois EPA, Bureau of Water at 102. This use support assessment relied on measurement of fecal coliform bacteria levels. Of the miles assessed, 3,265 stream miles were found to be not supporting primary contact uses. *Id.*

When USEPA issued the revised CAFO regulations in 2003, it estimated annual pollutant reductions for the rule at 56 million pounds of phosphorus, 110 million pounds of nitrogen, and two billion pounds of sediment. 73 Fed. Reg. 70468 (November 20, 2008). USEPA also used indicator organisms to estimate that pathogen loadings would be reduced by 46% percent as a result of the 2003 rule. 68 Fed. Reg. 7239. In 2008, USEPA found that the same level of benefits would be achieved by the 2008 amendments except that growth in the industry would increase the total amount of pollutant reductions achieved. 73 Fed. Reg. 70468-70469.

Further discussion about the environmental benefits of Illinois EPA's proposed amendments can be found in the Illinois EPA's Technical Support Document (TSD), Attachment A. Illinois EPA believes that these environmental benefits from the control of pollution from the CAFO production area and land application area are necessary to meet the Board's statutory obligations under the Clean Water Act and the Environmental Protection Act.

### **III. STATUTORY BASIS AND LEGAL FRAMEWORK**

#### **A. The Clean Water Act**

Section 301 of the Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), prohibits the discharge of any pollutant, unless the discharge meets requirements set forth in the CWA. 33 U.S.C. §1311(a). The discharge of a pollutant "means the addition of any pollutant to navigable waters from any point source." 33 U.S.C. §1362(12). The CWA defines "point source" to include any discernible, confined and discrete conveyance, including specifically CAFOs. 33 U.S.C. §1362(14). Agricultural stormwater, while undefined in the CWA, is specifically excluded from the definition of a point source. 33 U.S.C. §1362(14).

A discharge of a pollutant from a point source is allowable if the owner/operator of the point source has obtained a National Pollutant Discharge Elimination System (NPDES) permit.

33 U.S.C. §§1342(a)(1). All permitted discharges must meet applicable technology based and water quality based effluent limits found in sections 301 and 302 of the CWA. 33 U.S.C. §1342(a) (*see* 33 U.S.C. §1311, 1312). The technology based effluent limitations require the application of the best practicable control technology currently available (BPT) and the best available technology economically achievable (BAT). 33 U.S.C. 1311(b), (e). The CWA gives the Administrator of the USEPA the authority to determine the BPT and BAT. 33 U.S.C. §1311(b). The water quality related effluent limitations may be imposed when the discharges of pollutants after the application of technology based effluent limitations fails to assure the protection of public health, water supplies, fish and wildlife, and designated recreational, industrial or agricultural uses. 33 U.S.C. §1312(a). Additionally, under section 306 of the CWA, permitted new sources must also meet new source performance standards (NSPS). 33 U.S.C. §§1316. Feedlots are specifically included as a category of sources subject to new source standards of performance. 33 U.S.C. §1316(b)(1)(A).

#### **B. NPDES Program Delegation**

Under the CWA, a state, with approval from the Administrator of the USEPA, may establish and administer its own NPDES permit program for discharges into navigable waters within its jurisdiction. 33 U.S.C. §1342(b). Under the federal requirements to administer an NPDES program, a state must have adequate authority to issue permits which apply and insure compliance with all applicable requirements of sections 301, 302, 306, 307 and 403 of the CWA. *Id.* The USPEA sets forth the required authority in the federal regulations, section 123.25, Requirements for Permitting. This section provides that “all state programs under this part *must have legal authority to implement* each of the following provisions and must be administered in accordance with each, except that States are not precluded from omitting or modifying any

provisions to impose more stringent requirements.” 40 C.F.R. §123.25(a)(emphasis added). One way a State may have the legal authority to implement the federal provisions is for the state to adopt laws and regulations that conform to the federal provisions.

Section 123.25 proceeds to list the provisions of the federal rules that the state must have legal authority to implement. These include sections of the federal CAFO rules found in 40 C.F.R. §§ 122.21(a) and (i),<sup>1</sup> 122.23,<sup>2</sup> and 122.42.<sup>3</sup> As will be explained below in further detail, sections 122.21(a) and (i) contain the permit application requirements for CAFOs. Section 122.23 contains the special NPDES permit program rules for CAFOs. Section 122.42(e) contains the minimum conditions required in permits issued to CAFOs, including the Nutrient Management Plan (NMP) elements, recordkeeping, sampling and annual reporting.

A state program must also have the legal authority to implement the remaining elements of the federal CAFO rule found in 40 C.F.R. Part 412. A state with a delegated program must have the authority to implement the provisions of 40 C.F.R. §122.44<sup>4</sup> which establishes limitations, standards, and other permit conditions. Section 122.44(a)(1) provides that each NPDES permit must contain conditions implementing technology-based effluent limitations and standards based on “effluent limitations and standards promulgated under section 301 of the CWA, or new source performance standards promulgated under section 306 of the CWA.” Part 412 contains the effluent limitations and standards for CAFOs promulgated under sections 301 and 306 of the CWA. For States that choose to implement a general CAFO permit program, the general permit requirements in 40 C.F.R. §122.28 must be met.<sup>5</sup> In addition, a CAFO may be

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<sup>1</sup> See 40 C.F.R. §123.25(a)(4)

<sup>2</sup> See 40 C.F.R. §123.25(a)(6).

<sup>3</sup> See 40 C.F.R. §123.25(a)(13).

<sup>4</sup> See 40 C.F.R. §123.25(a)(15).

<sup>5</sup> See 40 C.F.R. §123.25(a)(11).

authorized to discharge under a general permit only in accordance with the requirements of 122.23(h). 40 C.F.R. § 122.28(b)(2)(viii).

Once a state obtains approval to administer its own program, the federal NPDES program will be suspended. The Administrator retains the ability to withdraw its approval if it determines that the state is not properly administering its program. 33 U.S.C. § 1342(c). Illinois was granted approval to administer its own NPDES permit program on October 23, 1977. 42 Fed. Reg. 58566 (November 10, 1977). USEPA regulations place a continuing obligation on delegated entities to maintain compliance with the minimum requirements for delegated programs. This includes a requirement in 40 C.F.R. §123.62(e) for state programs to be revised within one year of a change in federal regulations impacting state program elements.<sup>6</sup> The regulatory proposal before the Board seeks to update Illinois' rules governing CAFOs such that Illinois will comply with all the required elements of a delegated CAFO NPDES program under 40 C.F.R. §123.25.

### **C. Federal Regulation of CAFOs**

Other than in the definition of a point source, the CWA does not specifically address CAFOs. A CAFO, like all other point sources, is prohibited from discharging any pollutant without an NPDES permit. Specific CAFO effluent limitations and requirements are found in Parts 122 and 412, Title 40 of the Code of Federal Regulations. The following discussion provides a detailed explanation of these provisions. As the Agency's proposal conforms to the federal rule, the Agency anticipates that this explanation will be helpful in understanding the Agency's proposal, as well as in comparing how the Agency's rule differs from the federal rule.

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<sup>6</sup> A state is given two years to revise its NPDES program if the state must amend or enact a statute to effectuate the required revisions. 40 C.F.R. §123.62(e).

## 1. Early CAFO Rules

The first effluent limitations and standards of performance for large CAFOs were proposed on September 7, 1973 (38 Fed. Reg. 24466) and were adopted on February 14, 1974. (39 Fed. Reg. 5704). The 1974 rulemaking created Part 412 of Title 40 of the Code of Federal Regulations. Part 412 was divided into two subparts: subpart A, all subcategories<sup>7</sup> except ducks, and subpart B, ducks subcategory. Feed lots, the facilities regulated under subpart A, were defined to mean “a concentrated, confined animal or poultry growing operation” where the animals are fed but crops or forage growth are not sustained at the place of confinement. 40 C.F.R. §412.11 (1974).

For subpart A, all subcategories except ducks, the effluent limitation after the application of the BPT and BAT was no discharge. 40 C.F.R. §§ 412.12(a), 412.13(a) (1974). Both the BPT and BAT effluent limitations contained exceptions. The BPT effluent limitation exception arose whenever rainfall events, either chronic or catastrophic, caused an overflow from a facility designed, constructed and operated to contain all process generated wastewaters plus the runoff from a 10-year, 24-hour rainfall event. 39 Fed. Reg. 5707; 40 C.F.R. §412.12 (1974). Under the BAT effluent limitation exception, a feed lot could discharge in the event of a chronic or catastrophic rainfall event, if the facility was designed, constructed and operated to contain all process generated wastewater plus the runoff from a 25-year, 24-hour rainfall event. 40 C.F.R. §412.13 (1974). The new source performance standards under subpart A were the same as the effluent limitations after application of BAT. 40 C.F.R. §412.15 (1974).

Under subpart B, the ducks subcategory established specific effluent limitations (daily maximums and 30 day averages) after the application of BPT. 40 C.F.R. §412.22 (1974). The

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<sup>7</sup> For this rule, the industry was divided into 18 subcategories based on animal type, production systems and waste characteristics. 38 Fed. Reg. 24467.



daily maximum for BOD<sub>5</sub> was 3.66 pounds per 1000 ducks. *Id.* The average of daily values for 30 consecutive days could not exceed 2.0 pounds per 1000 ducks. *Id.* Fecal coliform was not to exceed MPN<sup>8</sup> of 400/100 ml at any time. *Id.* The effluent limitation after application of the BAT and the NSPS were the same as for all other subcategories of CAFOs in subpart A: no discharge allowed except in the event of a chronic or catastrophic rainfall event, if the facility is designed to contain all generated wastewater plus the runoff from a 25-year, 24-hour rainfall event. 40 C.F.R. §§ 412.23, 412.25 (1974).

When USEPA first promulgated rules governing feedlots, certain animal confinement facilities were specifically excluded from the NPDES permit requirement. 40 C.F.R. §124.11 (1974); 38 Fed. Reg. 18000 (July 5, 1973). Smaller animal confinement facilities containing less than 1,000 slaughter cattle, 700 dairy cattle, 2,500 swine, 10,000 sheep, 55,000 turkeys, 100,000 hens if the facility had continuous overflow watering, 30,000 if the facility had a liquid manure system or 5,000 ducks for more than 30 days in a 12 month period were specifically excluded from the NPDES permit requirement. *See* 40 C.F.R. §124.11(l) (1974); 40 C.F.R. §125.4 (1974). USEPA's attempt to exclude certain feedlots from the NPDES permit requirements did not withstand judicial scrutiny. *Natural Resources Defense Council, Inc. v. Train*, 396 F.Supp. 1391 (1975).<sup>9</sup> The court in *Train* held that under the CWA, USEPA could not exclude discharging point sources from the NPDES requirement. *Id.* All point sources were potentially subject to regulation under the CWA, and USEPA could not exempt entire classes of point sources that discharge pollutants from the NPDES permit requirements. *Train*, 396 F. Supp. at 1396.

In response to *Train*, USEPA proposed and adopted rules eliminating the exemption and defining both animal feeding operation (AFO) and CAFO. 40 C.F.R. §124.82 (1976). An AFO

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<sup>8</sup> MPN means "most probable number".

<sup>9</sup> *Train* was affirmed on appeal: *Natural Resources Defense Council, Inc., v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977).

was defined as a lot or facility where animals were stabled or confined and fed for at least 45 days a year, and no crops, vegetation, forage growth or post-harvest residue were sustained. 40 C.F.R. §124.82(a)(1) (1976). The 1976 amendments defined a CAFO in two ways. 40 C.F.R. §124.82(a)(2) (1976). First, an AFO was a CAFO if it had specific concentration of animals: 1,000 slaughter and feeder cattle, 700 mature dairy cattle, 2,500 swine weighting over 55 pounds, 500 horses, 10,000 sheep or lambs, 55,000 turkeys, 100,000 laying hens if the facility has continuous overflow watering, 30,000 hens if the facility has a liquid manure handling system, 5,000 ducks or 1,000 animal units. 40 C.F.R. §124.82(a)(2)(i) (1976). Second, an AFO was a CAFO if it had a lower concentration of animals than specified above<sup>10</sup> and the AFO met one of two discharge conditions: (1) discharge of pollutants through a man-made ditch, flushing system or other man-made device, or (2) discharge directly into navigable waters which originated outside of and passed over, across, through or otherwise came into direct contact with the animals contained in the operation. 40 C.F.R. §124.82(a)(2)(ii)(1976). These CAFO definitions contained an exception: an AFO that meets either definition of CAFO above would not be considered a CAFO if the facility discharged only in the event of a 25-year, 24-hour storm event. 40 C.F.R. §124.82(a)(2) (1976). This exception relieved non-discharging AFOs otherwise having the number of animals specified above from obtaining an NPDES permit because these facilities were not considered CAFOs.

Facilities with fewer animals than specified above were not CAFOs, and were not considered point sources; as non-point sources, these facilities could discharge without an NPDES permit, unless designated as a CAFO. 40 C.F.R. § 124.82(c)(1976). To be designated

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<sup>10</sup> To be a CAFO, these AFOs had to confine at least 300 slaughter or feeder cattle, 200 mature dairy cattle, 750 swine weighting over 55 pounds, 150 horses, 3,000 sheep or lambs 16,500 turkeys, 30,000 laying hens if the facility has continuous overflow watering, 9,000 hens if the facility has a liquid manure handling system, 1,500 ducks or 300 animal units.

as a CAFO, the AFO had to discharge to navigable waters, either directly or indirectly, and the permitting authority had to determine after an onsite inspection that the AFO should be regulated under the CAFO permit program. *Id.* The permitting authority considered the following factors in determining whether the AFO should be regulated as a CAFO: the AFO's size, location, slope, vegetation, amount of rainfall, means of conveyances of animal wastes, and the amount of waste reaching navigable waters. *Id.*

## 2. Current CAFO Regulations

The federal regulations on the NPDES program were recodified in 1979, and the CAFO regulations were eventually moved to 40 C.F.R. § 122.23.<sup>11</sup> The effluent limitations for CAFOs remained in Part 412. These regulations remained substantively unchanged until 2003, when USEPA amended the CAFO rules. The 2003 amendments to NPDES permit requirements were successfully challenged in *Waterkeeper v. U.S. Environmental Protection Agency*, 399 F.3d 486, 490 (2nd Cir. 2005). In response to *Waterkeeper*, USEPA amended the CAFO rules again in 2008. The 2008 amendments were successfully challenged in *Nat'l Pork Producers Council, et al v. United States Environmental Protection Agency*, 635 F.3d 738 (5th Cir. 2011). The following intertwines discussion of the 2003 rule (Attachment B), *Waterkeeper* (Attachment C), 2008 rule (Attachment D), and *Pork Producers* (Attachment E), so as to provide a description of the current consolidated federal rule (Attachment F).

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<sup>11</sup> On June 7, 1979, the USEPA extensively revised the NPDES permit program, creating 40 C.F.R. Part 122, National Pollutant Discharge Elimination System. Section 124.82(b), the regulation containing the CAFO permit requirement, was renumbered to section 122.42(a). 40 C.F.R. §122.42(a) (1979); 44 Fed. Reg. 32870 (June 7 1979). The CAFO NPDES regulations were moved again in 1980 to section 122.54. 45 Fed. Reg. 33445 (May 19, 1980). At this time, the detailed criteria for determining whether facilities are CAFOs were then moved to Appendix B of 40 C.F.R. Part 122. In 1983, section 122.54 was renumbered to section 122.23 48 Fed. Reg. 14163 (April 1, 1983).

**a. CAFO Designations**

The 2003 rule did not modify the definition of AFO, and retained the three tiered CAFO structure (two size-thresholds tiers and one designated tier) established in the 1976 regulation. 68 Fed. Reg. 7190. The previous CAFO tier that had 1,000 or more animal units became a “Large CAFO.” 40 C.F.R. §122.23(b)(4). Unlike the 1976 rule, the presence of a discharge was no longer required to be considered a large CAFO because the concept of the 25-year, 24-hour rainfall event exception was removed. CAFOs with 300 to 999 animal units became “Medium CAFOs”. The 2003 rule still required AFOs to meet one of two discharge conditions to be considered a medium CAFO. Small CAFOs are a new category in the 2003 rule and consists of those AFOs that do not meet the numerical criteria for either a medium or large CAFO, but are designated as CAFOs pursuant to section 122.23(c).

The size threshold for both medium and large CAFOs remained unchanged for the following categories: mature dairy cows, cattle, swine weighing over 55 pounds, horses, sheep or lambs, and turkeys. Veal calves was added as a category; a large CAFO confined at least 1,000 veal calves and a medium CAFO confined 300 to 999. A category for swine under 55 pounds was added; a large CAFO confined at least 10,000 swine each weighing less than 55 pounds, and a medium CAFO confined 3,000 to 9,999 swine weighing less than 55 pounds.

The 2003 rule distinguished between wet and dry handling systems for ducks and chickens. These AFOs were divided into two types—ones with liquid manure handling systems and ones without. Large chicken CAFOs confined 30,000 or more laying hens or broilers if the AFO used a liquid manure handling system, and 125,000 or more chickens and 82,000 or more laying hens if the AFO did not use a liquid manure handling system. Medium chicken CAFOs confined 9,000 to 29,999 laying hens or broilers if the AFO used a liquid manure handling

system, and 37,500 to 124,999 chickens and 25,000 to 81,999 laying hens if the AFO did not use a liquid manure handling system. Large duck CAFOs confined 5,000 or more ducks if the AFO used a liquid manure handling system, and 30,000 or more ducks if the AFO did not use a liquid manure handling system. Medium duck CAFOs confined 1,500 to 4,999 ducks if the AFO used a liquid manure handling system, and 10,000 to 29,999 ducks if the AFO did not use a liquid manure handling system.

The concept of animal units was eliminated in the 2003 rule. This change affects facilities with mixed animal populations. Previously, an AFO which did not meet the size threshold for any one animal type could still be considered a CAFO if the total animal population was 300 to 999 (medium CAFO) or 1,000 or more (large CAFO) animal units. Now, with the concept of animal units eliminated, these AFOs will not be CAFOs by definition, and not subject to regulation. However, should these AFOs significantly contribute to water pollution, they could be designated as a CAFO.

The CAFO designation process remained unchanged in the 2003 rule. Any AFO may be designated as a CAFO if the AFO is a significant contributor of pollutants to waters of the United States. 40 C.F.R. §122.23(c). This includes facilities that confine animals not having a specific size threshold, facilities with fewer animals than the medium CAFO size threshold, and facilities that meet or exceed the size threshold for medium CAFOs. 68 Fed. Reg. 7191 - 7200. Facilities not meeting or exceeding the medium CAFO numbers must meet one of the discharge conditions contained within the definition of medium CAFO. 40 C.F.R. §122.23(c)(3); 40 C.F.R. §122.23(b)(6)(ii); *supra* p. 10. Facilities meeting or exceeding the size threshold for a medium CAFO can be designated without meeting either discharge condition. The designation procedures were not changed in the 2003 rule amendment because “the existing criteria strike an

appropriate balance for ensuring protection of surface water quality while maintaining flexibility for States to assist small and medium operations before they become subject to NPDES requirements for CAFOs.” 68 Fed. Reg. 7199.

These classifications were not affected by subsequent court rulings or regulatory amendments, and are currently found in 40 C.F.R. §§122.23(b)(2), 122.23(b)(4), 122.23(b)(6), and 122.23(b)(9) (2011).<sup>12</sup>

**b. Permit Requirements, Determinations and Certifications**

Under the 2003 rule, all CAFOs were required to obtain NPDES permits if they have a discharge or they have the potential to discharge. 40 C.F.R. § 122.23(a). USEPA created this duty on all CAFOs to seek an NPDES permit, regardless of whether the CAFOs actually discharge. 40 C.F.R. §§122.21(a)(1), 122.23(d) (2003). A CAFO, however, would be relieved of the obligation to obtain an NPDES permit if it obtained a determination from the Director that the CAFO had no potential to discharge. 40 C.F.R. §122.23(d)(2) (2003).

This duty for all CAFOs to obtain an NPDES permit was struck down in *Waterkeeper v. U.S. Environmental Protection Agency*, 399 F.3d 486, 490 (2nd Cir. 2005). The *Waterkeeper* court held that USEPA exceeded its statutory jurisdiction by requiring all CAFOs to apply for an NPDES permit, or demonstrate no potential to discharge. *Waterkeeper*, 399 F.3d at 504. The CWA only grants USEPA authority to regulate discharges of pollutants, not point sources themselves. *Id.* at 505.

In response to *Waterkeeper*, USEPA removed the permit requirement for all CAFOs. *See* 40 C.F.R. §§122.21 and 122.23 (2009). Instead, a CAFO was required to seek coverage under an NPDES permit if the CAFO discharges or “proposes” to discharge. 40 C.F.R. §

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<sup>12</sup> In addition to the definition of CAFO, definitions of manure, process wastewater, production area, and land application area were also added. 40 C.F.R. §122.23(b).

122.23(d)(1)(2009). A CAFO proposes to discharge if it is “designed, constructed, operated or maintained such that a discharge will occur.” *Id.* Additionally, USEPA replaced the “determination of no potential discharge” exception to the permit requirement with a “no discharge certification” option. *See* 40 C.F.R. §122.23(i)–(j) (2009). A CAFO owner could voluntarily certify that the CAFO does not discharge or propose to discharge, and be relieved from liability for violating the duty to apply provisions of the rule. *Id.*

These revised “duty to apply” provisions were struck down in *Nat’l Pork Producers Council, et al v. United States Environmental Protection Agency*, 635 F.3d 738 (5th Cir. 2011). This court held that there must be an actual discharge into navigable waters to trigger the CWA’s requirements and the USEPA’s authority, and therefore the permit requirement for those who “propose to discharge” is *ultra vires*. *Id.* After *Pork Producers*, USEPA can only impose a duty to obtain a permit on those CAFOs that are discharging.

**c. Agricultural Stormwater**

In the CWA, agricultural stormwater discharges are specifically excluded in the definition of a point source. 33 U.S.C. §1362. USEPA added a new section 122.23(e) in the 2003 rule to distinguish a discharge from agricultural stormwater; a precipitation related discharge would be considered agricultural runoff if the manure, litter or process wastewater was applied in accordance with site specific *nutrient management practices*.<sup>13</sup> All other discharges resulting from land application in contravention of nutrient management practices were considered a discharge from a CAFO and subject to NPDES permit requirements. This agricultural stormwater exception was challenged and upheld in *Waterkeeper*, 399 F.3d at 507-

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<sup>13</sup> The agricultural stormwater exception (section 122.23(e)) provides that the site specific nutrient management practices are specified in section 122.42(e)(1)(vi)–(ix). Section 122.42(e)(1) sets forth the requirements to implement a nutrient management plan. Accordingly, site-specific nutrient management practices must contain some of the same elements of a nutrient management plan.

511. When the rules were amended in 2008, the agricultural stormwater exception was modified to apply to *large unpermitted CAFOs* that have applied manure, litter or process wastewater in accordance with site-specific nutrient management practices. 40 C.F.R. §122.23(d) (2009).

**d. Effluent Limitations**

When USEPA modified the CAFO rule in 2003, it explained that the national effluent limitation guidelines (ELGs) established in Part 412 applied only to large CAFOs. 68 Fed. Reg. 7207. For medium and small CAFOs, the best professional judgment (BPJ) of the permitting authority is used to determine the effluent limitations. Therefore, the following discussion of effluent limitations from the federal CAFO rule applies only to large CAFOs.

With the 2003 rule amendment, Part 412 is subdivided into four subparts: subpart A, Horse and Sheep; subpart B, Ducks; subpart C, Dairy Cows and Cattle other than Veal Calves; and subpart D, Swine, Poultry and Veal Calves. For Horse and Sheep, the effluent limitations for the production area did not change from the 1974 rule.<sup>14</sup> 40 C.F.R. §§412.10-412.15 (2003). For Ducks, the effluent limitation for the production area after the application of BPT and the new source performance standards (NSPS) remained unchanged, but the BAT effluent limitation was removed in the 2003 rule.<sup>15</sup> Part 412 does not set forth effluent limitations for land application areas for horse, sheep or duck CAFOs.

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<sup>14</sup> The effluent limitation after application of BPT was no discharge, unless rainfall events caused an overflow of wastewater from a facility designed, constructed, and operated to contain all the waste generated by the facility in addition to any runoff from a 10-year, 24-hour storm event. The BAT effluent limitation was no discharge except those caused by a rainfall event from a facility designed, constructed and operated to contain its own wastewater and any runoff from a 25-year, 24-hour storm event. The new source performance standards (NSPS) were also not modified from the previous rule.

<sup>15</sup> The effluent limitations after application of BPT are the following: a daily maximum for BOD<sub>5</sub> of 3.66 pounds per 1000 ducks. The maximum monthly average for BOD<sub>5</sub> is 2.0 pounds per 1000 ducks. Fecal coliform is not to exceed MPN of 400 per 100 ml at any time. The NSPS is no discharge, unless rainfall events caused an overflow of wastewater from a facility designed, constructed, and operated to contain all the waste generated by the facility in addition to any runoff from a 10-year, 24-hour storm event.



The effluent limitations for dairy cows and cattle other than veal calves are in subpart C. and the effluent limitations for swine, poultry and veal calves are in subpart D. These effluent limitations are explained below.

**i. Production Area**

With one exception, the CAFOs in both subparts C and D share the same effluent limitations for the production area. New source performance standards (NSPS) applicable to the production area for CAFOs in subpart D (swine, poultry and veal calves) differ from the NSPS for CAFOs in subpart C (dairy cows and cattle). Otherwise, the Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT) for the production area of CAFOs in subpart C and D are the same.

The effluent limitation attainable by the application of BPT, BCT, and BAT for the production areas of CAFOs in subparts C and D is: “no discharge of manure, litter, or process wastewater pollutants into waters of the U.S.” This limitation has two exceptions. The first exception arises when a rainfall event causes an overflow of wastewater, manure, or litter, and the CAFO’s production area is designed, constructed, operated, and maintained to contain all the manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rain fall event.

To claim the first exception, the CAFO must also be operated in accordance with “additional measures”. 40 C.F.R. §412.31(a)(1)(ii). The CAFO must conduct routine visual inspections, install depth markers in all open surface liquid impoundments which indicate the minimum capacity necessary to contain the runoff and direct precipitation from a 25-year, 24-hour storm event, correctly handle animal mortalities, and keep necessary records for the

production area. 40 C.F.R. §412.37(a). The CAFO must correct any deficiencies found as a result of the weekly inspections, and keep records documenting that the inspections were performed and deficiencies were corrected. 40 C.F.R. §412.37(a)-(b). The CAFO must prevent animal mortalities from being disposed in liquid manure or process wastewater systems, and animal mortality handling practices must be recorded. *Id.* In addition to the above record keeping requirement, the CAFO must keep records documenting the design of storage structures, and the date, time and estimated volume of any overflow. 40 C.F.R. §412.37(b).

The second exception to the effluent limitation of no discharge is the voluntary alternative performance standard. 40 C.F.R. §412.31(a)(2). To establish an alternative performance standard, the CAFO owner must submit a technical analysis showing that the application of site-specific alternative technologies result in a quantity of pollutants discharged from the production area equal or less than the quantity of pollutants that would be discharged under the BPT option explained above. The technical analysis must include the quantity of pollutants proposed to be discharged, the amount of nitrogen, phosphorous, BOD<sub>5</sub>, and total suspended solids in the discharge, all daily inputs and outputs to the storage system, and the predicted overflow volume. 40 C.F.R. §412.21(a)(2).

The production area NSPS for subpart C (dairy cows and cattle) CAFOs is the same as BPT, BCT, and BAT. 40 C.F.R. §412.35 (2003). For subpart D (veal, swine and poultry), however, the NSPS differs. Initially, in the 2003 rule, the production area NSPS effluent limitation for subpart D CAFOs was no discharge. A facility designed, constructed, operated and maintained to contain the manure, litter, and process wastewater plus the runoff and direct precipitation from a 100-year, 24-hour rainfall event will fulfill the no discharge requirement in

the 2003 rule. 40 C.F.R. §412.46(a)(1) (2003). These facilities were also required to comply with the same additional measures applicable to subpart C CAFOs. *Id.*

In the 2003 rule, subpart D CAFOs could seek a superior environmental performance standard from the Director instead of following the NSPS explained above. The CAFO had to demonstrate it could achieve equivalent or greater reduction in the amount of pollutants released from the production area than the NSPS by using site-specific innovative technologies. 40 C.F.R. §412.26(d). This voluntary alternative performance standard allowed for compliance flexibility, and encouraged CAFOs to adopt innovative technology.

The 2003 NSPS for subpart D CAFOs was successfully challenged in *Waterkeeper* on the grounds that the record did not contain adequate support for the 100-year, 24-hour rainfall event option and the alternative performance standards. *Waterkeeper*, 399 F.3d at 520-521. In response to *Waterkeeper*, USEPA amended the NSPS for subpart D CAFOs. See 40 C.F.R. §412.46(a) (2009). Specifically, the 2008 rule deletes the two provisions that the *Waterkeeper* court remanded. The effluent limitations remain no discharge, but subpart D CAFOs no longer have the alternative performance standard or 100-year, 24-hour rainfall event options. The 2008 rule adds a new provision that allows CAFOs using an open surface manure storage structure to request site specific BMP effluent limitations that incorporate the no discharge requirement. 40 C.F.R. §412.46(a)(1); 73 Fed. Reg. 70459. The BMP effluent limitation must be based on a technical evaluation of the site's storage structures, climate data, minimum storage periods, total calculated storage period in months, daily manure and wastewater additions, and size and character of the land application area. Facilities designed, constructed and maintained consistent with the results of the technical evaluation, that maintain the necessary records, conduct the required visual inspections, implement necessary corrective actions, and properly handle

mortalities will be in compliance with the effluent limitation of no discharge. See 40 C.F.R. §§412.46(a)(1)(viii), 412.47(a) and (b), 412.37(a) and (b) (2009).

ii. **Land Application Area**

The effluent limitations and NSPS for the land application area are the same for all subpart C and D CAFOs.<sup>16</sup> Each CAFO that land applies must develop best management practices (BMPs) for land application of manure, litter and process wastewater. 40 C.F.R. § 412.4(c). The primary BMP is to develop and implement a nutrient management plan (NMP) that achieves realistic crop production goals while minimizing nitrogen and phosphorus movement to surface waters. The main components of an NMP meeting the above objective will be the application rates, record keeping, inspections, and setbacks from surface waters. Effectively, meeting the effluent limitation for the land application area requires CAFOs to develop adequate NMPs.

In developing an NMP, a CAFO must determine the application rates for manure, litter and other process wastewater. These application rates must be in compliance with technical standards for nutrient management established by the permitting authority. The technical standards must include a specific assessment of each field used for land application. 40 C.F.R. §412.4(c)(1). Each assessment should determine the nitrogen and phosphorus transport potential. The technical standards must also address the form, source, amount, timing, and method of application of livestock waste to each field needed to meet the NMP's objective of minimizing nitrogen and phosphorus movement to surface waters. 40 C.F.R. §412.4(c)(2). The technical standards developed by the permitting authority should also include flexible

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<sup>16</sup> As noted earlier, effluent limitations for the land application area of subpart A (horses and sheep) and subpart B (ducks) CAFOs are not listed in Part 412. Therefore, throughout this section discussion of effluent limitations for the land application area, CAFO refers to only subpart C and D CAFOs.

alternatives available to the CAFO in implementing the nutrient management practices, such as multi-year phosphorous application. *Id*

In addition to the technical standards, the NMP must contain provisions requiring the CAFO to analyze manure and soil for nitrogen and phosphorus; manure must be analyzed annually, and soil must be analyzed once every five years. 40 C.F.R. §412.4(c)(3). Similarly, the NMP must require that the CAFO operator inspect land application equipment for leaks. 40 C.F.R. §412.4(c)(4). Finally, the NMP must contain the following set back requirements: a 100 foot setback requirement from any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters. 40 C.F.R. §412.4(c)(5). The CAFO may substitute the 100 foot setback with a 35 foot vegetated buffer, or demonstrate that a setback or buffer is not necessary. As an additional alternative, a CAFO may demonstrate that the setback or buffer is not needed because the CAFO's alternative practice provides equivalent pollutant reduction. 40 C.F.R. §412.4(c)(5).

**e. Nutrient Management Plans**

The 2003 rule added paragraph (e) to section 122.42 which sets forth required permit conditions: (1) develop and implement NMPs, (2) keep adequate records, (3) establish conditions on transferring manure or wastewater to another person, and (4) report annually to the Director. 40 C.F.R. §122.42(e) (2003). Section 122.42(e)(1) sets forth NMP requirements: an NMP must ensure the following: adequate storage of manure, proper management of mortalities, diversion of clean water, and proper disposal of chemicals and other contaminants. 40 C.F.R. §122.42(e)(1)(i)-(iii), (v). It must prevent animals in the CAFO from coming in contact with the waters of the United States. 40 C.F.R. §122.42(e)(1)(iv). It also must establish protocols for land application of manure, litter, or process wastewater, and for testing manure. 40 C.F.R.

§122.42(e)(1)(vii)-(viii). The NMP must identify which records will be maintained and the site specific conservation practices the CAFO will implement to control runoff. 40 C.F.R. §122.42(e)(1)(vi) and (ix).

While NMPs form a foundational element of a CAFO's effluent limitation for land application areas, their provisions must address "discharges that originate either from production areas or from land application areas." 73 Fed. Reg. 70438. USEPA has required that all permitted facilities develop an NMP, even if these facilities do not land apply.

Under the 2003 rule, CAFOs were obligated to submit a certification that the CAFO completed an NMP that would be implemented upon the date of permit coverage. 40 C.F.R. §122.21(i)(1)(x). The NMP provisions were challenged in *Waterkeeper*. The court held that the regulations violated the CWA because they failed to provide the permitting authority review of NMPs, failed to require that the terms of the NMP be included in the permit, and violated the CWA's public participation requirement. *Waterkeeper*, 399 F.3d at 498-504. The CWA requires that USEPA prescribe conditions for NPDES permits to assure compliance with effluent limitations and standards. *Waterkeeper*, 399 F.3d. at 498-99; 33 U.S.C. 1342(a)(2). The court in *Waterkeeper* held that the terms of an NMP constituted effluent limitations, but the 2003 rule did nothing to ensure that CAFOs developed satisfactory NMPs or to ensure compliance with effluent limitations associated with land application. *Waterkeeper*, 399 F.3d at 502-03. The NMP "designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program reduces the discharges of pollutants to the maximum extent practicable." *Waterkeeper*, 399 F.3d at 500.

In 2008, USEPA amended the CAFO rule in response to the *Waterkeeper* opinion, requiring that all CAFOs applying for a permit submit an NMP to the Director as a part of the

permit application. 40 C.F.R. §122.21(i)(1)(x) (2009). This submission allows the permitting authority the opportunity to review the effluent limitations contained within the NMP before the permit is issued. Inclusion of the NMP in the permit application also provides the public with the opportunity to comment on the NMP during the permitting process. Under 40 C.F.R. Part 124, the Director must make a final decision on the permit application after a period of public comment with the opportunity to request a public hearing.

For general permits, the provisions in section 122.23(h) were added in response to the *Waterkeeper* decision. When the CAFO general permit is issued, it does not contain an NMP because the general permit covers multiple facilities and the NMP is a facility specific plan. Therefore, the first public notice and comment period for the general permit does not provide the public with the opportunity to comment on the site specific effluent limitations contained within the NMP. Section 122.23(h) remedies this by adding a second notice and comment period. Under this section, after a CAFO submits a Notice of Intent (NOI), the Director is required to review the NOI to ensure that it contains an NMP meeting the requirements of section 122.42(e) and Part 412. After the Director makes a preliminary determination that the NOI is sufficient and complete, a second notice and comment period begins. After the Director has addressed all significant comments, the Director makes the final decision to grant or deny coverage under the general permit. If coverage is granted, the terms of the NMP must be incorporated into the general permit. 40 C.F.R. §122.23(h)(1) (2009).

**i. NMP Terms**

After the 2008 amendments, all CAFO NPDES permits must require compliance with all the terms of the CAFO's NMP. 40 C.F.R. §122.42(e)(5). USEPA added subsection 122.42(e)(5) to clarify which parts of the NMP were the enforceable terms. 73 Fed. Reg. 70443.

The terms of an NMP include any conditions, information, protocols, or BMPs necessary to meet the NMP requirements articulated in section 122.42(e)(1). These terms include “what the operator would be required to do to properly implement its NMP and determinative conditions upon which such actions are based.” *Id.* Contents of the NMP that are beyond the scope of section 122.42(e)(1) are not considered terms, such as historical information. *See* 78 Fed. Reg. 70444. Non-terms within the NMP are not incorporated into the permit, and are not enforceable by the permitting authority.

Under section 122.42(e)(5), the terms must include the following: (1) the fields available for land application; (2) the field-specific rates of application developed according to the linear or narrative approach (see below); and (3) any timing limitations for land application. The Identification of each field available for land application is a term of the NMP because the field-specific information must be reviewed by the permitting authority and the public to determine the appropriate conservation practices and rates of application. 73 Fed. Reg. 70444. The addition of any new fields is a substantial change to the NMP, which requires public review and comment before the field can be added. *See* 40 C.F.R. § 122.42(e)(6)(iii).

## **ii. Rates of Application**

As a part of the protocols of land application, the application rates of manure, litter or process wastewater must ensure that nutrients in the soil do not runoff, but are utilized by crops on the fields. 73 Fed. Reg. 70445. The 2008 rule provides CAFO owners and operators with two options for determining the proper application rate—the linear approach and the narrative approach. *See* 40 C.F.R. §122.42(e)(5). The linear approach “expresses field-specific maximum rates of application in terms of the amount of nitrogen and phosphorus from [livestock waste] allowed to be applied.” 73 Fed. Reg. 70444. The narrative approach “expresses the field



specific rate of application as a narrative rate prescribing how to calculate the amount of [livestock waste] to be applied.” *Id.* Under each approach, the owner or operator must make projections for each field for every year of the permit. These projections include the crops planted, the crop rotation, amount of nitrogen and phosphorus the crops needs, expected yields, amounts of nitrogen and phosphorous to be land applied, and the amounts of manure, litter and process wastewater that will be applied.<sup>17</sup> *Id.* The crop nutrient needs and the expected yields can be calculated from formulas or obtained from secondary sources recommended by the permitting authority. To project the amount of nitrogen and phosphorous to be land applied, the owner or operator must test the phosphorous levels of each field on which it plans to land apply. The phosphorus concentrations in the soil, along with other factors, will dictate whether the application will be phosphorous based or nitrogen based.

The linear approach will state the maximum application rate in pounds of nitrogen or phosphorous per acre, for each field, each crop planted on that field, for each year of the permit. 40 C.F.R. §122.42(e)(5)(i). Terms of the NMP if using the linear approach are: (1) the maximum application rate of nitrogen and phosphours for each year of the permit, for each crop, for each field, (2) the outcome of the field-specific assessment performed on each field, (3) the realistic yield goal for each crop, (4) the nitrogen and phosphorus recommendations, (5) recommended crop nutrient needs, (6) nitrogen credits, (7) all other additions of plant available nitrogen and phosphorus to the field, (8) the source of the manure, litter and process waste water, (9) the method of land application, and (10) the timing of land application. Large CAFOs must test the manure to be land applied each year and calculate the maximum amount that can be applied. 40 C.F.R. §122.42(e)(5)(i)(B).

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<sup>17</sup> The projected amount of livestock waste is not a term of the NMP. 73 Fed. Reg. 70444.

This approach is “linear” because the CAFO owner or operator can only use the crops identified in the planned crop rotation in the NMP. 73 Fed. Reg. 70447. “[A] single set of field specific rates of application [must be] established, based on the predicted sequence of activities the CAFO plans to follow in implementing its NMP.” *Id.* The success of this approach increases if the CAFO makes accurate predictions of the needs and availability of fields and the particular crop sequence to be planted. If the CAFO’s needs to change the sequence of crops on a particular field, the NMP would need a substantial modification, necessitating public notice and comment. *Id.* Because it is clear and easy to understand, the linear approach is a good option for CAFOs with predictable crops and methods of land application. *Id.*

If a CAFO needs more flexibility than afforded by the linear approach, the CAFO can use the narrative approach to determine the application rates. In the narrative approach, the application rates are calculated annually using a “methodology” that is included as a term in the NMP. CAFOs using this approach are provided greater latitude than the linear approach to adjust their application rates to accommodate changes in the soil or crop rotations without modifying the permit. 73 Fed. Reg. 70449-50.

Under the narrative approach, the CAFO must determine the total amount of plant available nutrients and identify a specific, quantitative method for calculating the amount of manure to be applied. 73 Fed. Reg. 70448; 40 C.F.R. §122.42(e)(5)(ii). Like the linear approach, the maximum amount of manure that can be applied to the land must be calculated at least once a year under the narrative approach. 40 C.F.R. §122.42(e)(5)(ii)(D). Terms of the NMP using the narrative approach are the following: (1) for each crop in the NMP, the maximum amounts of nitrogen and phosphorous in pounds per acre, for each field, from all sources of nutrients, (2) outcome of the field-specific assessment, (3) the crops to be planted in

each field, or other use for the field, (4) realistic yield goal for each crop, and (5) the recommended crop nutrient needs. If the NMP contains alternative crops not in the crop rotation, the realistic crop yield goals and the nutrient needs of these alternative crops are also considered terms. 40 C.F.R. §122.42(e)(5)(ii)(B).

Additionally, the terms of the NMP include the “methodology” used by the CAFO in calculating the amount of manure to be land applied. This methodology must consider the following factors: results of soil tests, credits for nitrogen, amount of nitrogen in manure, consideration of multi-year phosphorus application, other additions of plant available nitrogen and phosphorus, form and source of manure, timing and method of land application and volatilization of nitrogen and mineralization of organic nitrogen. 40 C.F.R. §122.42(e)(5)(ii)(A). While these factors must be considered in the methodology, they are not necessarily terms themselves. 73 Fed. Reg. 70448. Instead, the methodology is a permit term. Therefore, the CAFO is bound by the chosen method of accounting for the above factors in determining the allowable application rate.

The federal rule also specifies some required components of the narrative approach that are not terms of the NMP. These required, non-term components include: projections of planned crop rotation for each field for the duration the permit, projected amounts of manure to be applied, projected credits for plant available nitrogen, consideration of multi-year phosphorus application, other additions of plant available nitrogen and phosphorus, form and source of manure, and method of land application. 40 C.F.R. §122.42(e)(5)(ii)(C).

### **iii. NMP Modification**

The *Waterkeeper* court held that the NPDES permit must incorporate the terms of the NMP. After *Waterkeeper*, modification to the NMP could require a modification of the permit.

To explain when NMP modification requires permit modification, USEPA promulgated section 122.42(e)(6) in the 2008 rule. To make a change to the NMP, the CAFO owner or operator must submit the proposed change to the Director. After determining that the revised NMP meets the applicable effluent limitations in Part 412, the Director must decide whether a term of the NMP is changed. If a term is not changed, the Director will notify the CAFO that it can make the proposed change to the NMP. 40 C.F.R. §122.42(e)(6)(ii).

If a term of the NMP is changed, the Director must determine whether the change is substantial. If the change is substantial, the Director must incorporate the change into the permit by following the same process as when first incorporating the terms of the NMP into the permit. 40 C.F.R. §122.42(e)(6)(ii)(B). A substantial change includes any change to site specific components of a nutrient management plan likely to increase the risk of nutrients reaching the waters of the United States. 122.42(e)(6)(iii)(D). Specific examples provided in the regulations include adding new land application areas; any changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop for those using the narrative approach; the addition of crops or using the field in different manner than specified in the NMP, and corresponding field specific rates of application expressed under the linear and narrative approach; and any change to the maximum annual rates for land application for those using the linear approach. 40 C.F.R. § 122.42(e)(6)(iii)(A)-(C).

If the change is not substantial, the Director does not have to provide the public notice and an opportunity to comment. Instead, the Director only has to notify the public of the changes to the NMP. 40 C.F.R. §122.42(e)(6)(ii)(A).

f. **Proposed CAFO Reporting Obligations**

In response to a settlement agreement with environmental petitioners in the *Pork Producers* case, USEPA recently proposed a new section 122.23(k) for public comment. 76 Fed. Reg. 65431 (October 21, 2011) (Attachment G). In the settlement, USEPA agreed to promulgate a rule that required certain CAFOs to provide certain information to USEPA. USEPA has committed to take final action on this proposal by July 13, 2012.

USEPA proposed two options for public comment. The first option would require that all CAFOs report the following information to USEPA: (1) legal name of the owner of the CAFO and contact information; (2) location of the CAFO's production area; (3) whether the CAFO has an NPDES permit; (4) types of animals confined in the last 12-month period; (5) where the owner land applies manure, litter or process wastewater; and (6) the total number of acres the owner has for land application. Under the first option, states may submit the information to USEPA on behalf of the CAFOs. The second option USEPA proposed was to require the same information listed above, but only from CAFOs located in a "focus watershed" identified by USEPA. To identify a focus watershed, USEPA will consider factors such as whether CAFOs cause water quality concerns, whether the watershed is a high priority, or whether the area has vulnerable soil types or a high density of animal agriculture. When determining whether the watershed is a high priority, USEPA will consider whether the area is a vulnerable ecosystem, is a drinking water source, has high recreational value, or has outstanding natural resources.

**D. Illinois Environmental Protection Act**

Title III of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/11-13 (2011), governs water pollution. The purpose of this title is to "maintain and enhance the purity of the waters of this State in order to protect health, welfare, property and the quality of life, and to

assure that no contaminants are discharged into the waters of the State.” 415 ILCS 5/11(b). The General Assembly explicitly found that water pollution is a “menace to public health, and welfare” and that it “is harmful to wildlife, fish and aquatic life.” 415 ILCS 5/11(a)(1). Additionally, the General Assembly found that water pollution impairs domestic, agricultural, industrial, and recreational uses of water. 415 ILCS 5/11(a)(1). The General Assembly acknowledged that federal law regulates the discharge of contaminants, and that it would be inappropriate and misleading to issue permits which are contrary to the conditions and terms required by federal law. 415 ILCS 5/11(a)(4). The General Assembly made the formal finding that it was in the interest of the People of the State of Illinois to secure federal approval to implement the NPDES program, to give the Board authority to adopt such regulations, and to give the Agency authority to adopt such procedures as would enable the State to secure federal approval to issue NPDES permits. 415 ILCS 5/11(a)(7) and (b).

The Act prohibits the “discharge of any contaminants into the environment in any State so as to cause . . . water pollution in Illinois.” 415 ILCS 5/12(a). Section 12(f) of the Act prohibits any person from causing, threatening or allowing the discharge of any contaminant into the waters of the State, into waters to any sewage works, into any well, or from any point source without an NPDES permit or in violation of the terms or conditions of the NPDES permit. 415 ILCS 5/12(f). This section further prohibits a discharge that violates any Board regulation or order. *Id.* A permit under section 12(f) will not be required for discharges that do not require a permit under the CWA. *Id.*

The Act also grants the Board the authority to adopt regulations to promote the purposes of the Act and implementing an NPDES program. 415 ILCS 5/13(a). The Board is required to adopt requirements, standards, and procedures necessary or appropriate to enable the State to

implement and participate in the NPDES permit program. 415 ILCS 5/13(b)(1). The regulations adopted by the Board must be consistent with the CWA and federal regulations. *Id.*

#### E. Illinois Regulations

The Board first adopted agriculture-related pollution regulations in 1974.<sup>18</sup> These regulations are currently found in Parts 501 to 504 of Title 35 of the Illinois Administrative Code. Under the Agency's proposal, only Parts 501 and 502 will be amended.<sup>19</sup>

Currently, Part 501 contains general provisions, including the authority, scope, definitions, and operational rules for all livestock facilities. It was last amended in 1991.<sup>20</sup> The definition of AFO in section 501.225 is the same as the definition in the 1976 federal CAFO rule.<sup>21</sup> The Board's regulations, however, do not define CAFO, but instead differentiate between livestock management facilities (which include animal feeding operations) and livestock waste-handling facilities. *See* 35 Ill. Admin. Code 501.285 and 501.300. Part 501 also contains operational rules for all livestock management facilities and livestock waste-handling facilities, regardless of whether the facility must obtain a permit under Part 502.

Part 502 sets forth the NPDES permitting requirements. This section was only amended once in 1978<sup>22</sup>, making it consistent with the 1976 federal rule. The three tiered CAFO system in the 1976 federal regulations is found in section 502.103(Very Large Operators) section 502.104 (Large Operators) and section 502.106 (Case-by-Case Designation). Like the 1976 federal rule, only designated facilities, large, and very large facilities are required to obtain a permit. Similarly, a permit is only required if there is a discharge, and a facility that discharges

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<sup>18</sup> IPCCB, *In re Chapter 5: Agriculture-Related Pollution, Section 1: Livestock Waste Regulations*, Opinion of the Board, R72-9 (November 14, 1974).

<sup>19</sup> The Agency proposes to repeal Part 504.

<sup>20</sup> *In re Amendments to 35 Ill. Adm. Code 501*, R90-7, Final Order (June 20, 1991).

<sup>21</sup> *See* 40 C.F.R. §124.82(a)(1) (1977).

<sup>22</sup> *In re Amendments to the Agriculture Related Pollution Regulations of the Illinois Pollution Control Board*, R76-15, Opinion and order (September 21, 1978).

only in the event of a 25-year, 24-hour storm event is exempted from the permit requirement. *See* 35 Ill. Adm. Code 502.102. The remaining subparts of 502 set forth the procedures for permit application, issuance, modification, and appeals.

While the Board's current regulations require that all livestock management or waste-handling facilities comply with the CWA, the rules have not been updated to incorporate the changes made to the federal rule in 2003 and 2008. *See* 35 Ill. Adm. Code 501.401. The Agency did not immediately propose a rulemaking to incorporate the 2003 and 2008 changes because of the pending litigation after both federal rulemakings.

#### **IV REGULATORY PROPOSAL: PURPOSE AND EFFECT**

The Illinois EPA now submits this regulatory proposal to amend Parts 501 and 502 of Title 35 of the Illinois Administrative Code. The proposed changes are intended to make Subtitle E conform to the revised federal NPDES regulations and to adopt the technical standards necessary to complete the Illinois CAFO NPDES program. These amendments are necessary to maintain federal delegation of the NPDES program.

The primary purpose of the proposed amendments to Subtitle E is two-fold. First, the proposal attempts to update the existing regulations so that they are consistent with, and as stringent as, the current federal CAFO regulations. Failure to update the Board's CAFO regulations to be as stringent as USEPA's CAFO regulations could result in withdrawal of federal delegation of the NPDES program itself to the State of Illinois. When a change in USEPA's regulations requires a change in state law to maintain consistency, federal law gives delegated states one year to update their NPDES regulations to be consistent with the federal changes, unless a statutory change is required, in which case a state is given two years to comply. *See* 40 C.F. R. §123.62(e). On December 22, 2008, USEPA Region 5 notified Illinois EPA that



Illinois' CAFO regulations provide "exemptions from NPDES permit requirements which were eliminated from federal law in February 2003." *See* Attachment H. (Letter from Tinka G. Hyde to Marcia Willhite). USEPA went on to encourage Illinois EPA to take whatever steps were necessary to amend Subtitle E within the one year timeline from adoption of the 2008 CAFO rule. *Id.* On March 27, 2008, Illinois Citizens for Clean Air & Water submitted a petition to the USEPA Administrator, asking USEPA to initiate proceedings to withdraw Illinois' NPDES permit program. In September 2010, USEPA completed its initial investigation, finding among other things that Illinois EPA failed to revise its rules to be consistent with federal CAFO rules.

The second purpose of the proposal is to establish the state technical standards which are mandated by the federal rule, but not prescribed for the states. In its December 2008 correspondence, USEPA indicated that "Illinois still needs to establish standards that address the rate at which manure, litter, and process wastewater may be applied on crop or forage land where the risk of phosphorus transport is high, as well as standards for land application on frozen soil and snow." Attachment H; *see also* 40 C.F.R. § 412.4(c)(1) and(2). These amendments develop the required technical standards that were mandated in the 2003 and 2008 CAFO rule, but that have been left to Illinois to develop and implement.

In addition to fulfilling the basic obligation placed on delegated states, the Agency's proposed technical standards tailor the federal requirements to the unique environmental, water quality, and land use conditions in Illinois. The proposal also allows the Board to take into account unique factors related to the types, sizes and characteristics of Illinois CAFOs. The following provides a detailed explanation of how the proposed regulations have attempted to comply with this delegation from USEPA while ensuring that Illinois' CAFO regulations are at least as stringent as those contained in the federal CAFO regulations.

## V. REGULATORY PROPOSAL: LANGUAGE

Illinois EPA proposes to amend Parts 501 and 502, and repeal Part 504.

### A. Part 501

Part 501 is broken into 4 subparts: subparts A through D. Subpart A contains an explanation of the organization, policy and authority to adopt these rules. Subpart B contains the definitions and incorporations by reference for Parts 501 to 503. Subpart C contains requirements for all livestock management facilities and livestock waste handling facilities, regardless of whether the facilities are required to obtain an NPDES permit. The Illinois EPA is proposing a new subpart D, which contains the CAFO reporting requirement in section 501.505.

#### 1. Subpart A

In subpart A, the Illinois EPA proposes adding sections 501.103 and 501.104. Section 501.103 explains the organization of Parts 501-503 and 506. Section 501.104 contains severability provisions for parts of the rule which are adjudged invalid; these provisions are taken from 504.102 which the Agency proposes to repeal.

#### 2. Subpart B

In subpart B, the Illinois EPA proposes updating the existing incorporations by reference in section 501.200 and adding several new documents to the list. The Agency also proposes adding the following definitions to be consistent with the federal rule: Concentrated Animal Feeding Operation (CAFO); dry lot; land application area; manure; overflow; process wastewater; setbacks; vegetative buffer; wet lot; 25-year, 24-hour precipitation event; and 100-year, 24-hour precipitation event. The definition of new source, which matches federal definition found in 40 C.F.R. §122.2, is being added. Additionally, filter backwash is being

added to the definition of pollutant because it is included in the federal definition found in 40 C.F.R. §122.2.

The Illinois EPA proposes breaking the federal definition of production area into the following definitions: production area, animal confinement area, manure storage area, raw materials storage area, and waste containment area. All of these terms are defined in the same way under the federal rule's definition of production area.

In addition to adding definitions from the federal rule, the Agency proposes adding the following definitions: chemicals and other contaminants; erosion factor T; frozen ground; grassed waterway; groundwater; incorporation; injection; saturated; surface land application; vegetative fence row. These newly defined terms are used in the state's technical standards developed in Part 502. *See* Attachment A, TSD 60-64.

The Agency's proposal amends the following definitions: CWA; man-made; man-made ditch; and owner/operator. The proposed change to the definition of CWA is intended to clean up the definition by replacing a reference to Federal Water Pollution Control Act with the Clean Water Act. The proposed definitions of man-made and man-made ditch remove the "purposeful" requirement contained in the current definition to avoid being less stringent than the federal CAFO regulations. Attachment A, TSD 1. The proposed definition of owner/operator is being changed to include any person who operates a livestock management facility or livestock waste-handling facility.

Additionally, the Agency proposes modifying the definition of livestock waste. First, the Agency proposes include the following as livestock waste: manure, litter, process wastewater, overflow from watering systems, sludge and contaminated soils. Second, the Agency adds an exclusion from the definition: agricultural stormwater discharge is not livestock waste. When

incorporating federal requirements in proposed rule, the Agency uses the phrase “livestock waste” where the federal rule uses phrase “manure, litter and process wastewater.”

Finally, Illinois EPA proposes to repeal the definition of “settling basin” and “navigable waters” because the federal CAFO rule does not use these terms. Furthermore, the current definition of navigable waters references a federal definition of waters of the United States which has been repealed. Throughout Part 502, the Agency proposes using the phrase “waters of the United States” in place of navigable waters.

### **3. Subpart C**

Subpart C contains the operational rules. The Agency proposes amending the title of this subpart to reflect the applicability of the rule: all livestock management facilities and livestock waste-handling facilities. Within subpart C, sections 501.401(b)-(c) and (e); 501.402(d)(1); 501.404(b)-(e); and 501.405(a) are being amended. The proposed amendments to sections 501.401(c), 501.402, and 501.404(e) are non-substantive, clean-up changes.

The Agency proposes to change the title of section 501.401 to “Purpose and Scope of Operational Rules for Livestock Management Facilities and Livestock Waste-Handling Facilities” to better describe the intended purpose of this section. Illinois EPA also proposes to amend section 501.401(b) to include an obligation on all facilities to determine whether they must obtain an NPDES permit. If the facility is subject to NPDES permit requirements, the facility must follow the terms of the permit and the provisions in Part 502 in addition to the applicable requirements of Part 501. Attachment A, TSD 2.

The Agency also proposes to add subsection (e) to section 501.401. Under this new subsection, runoff from livestock waste handling facilities or livestock management facilities which causes a water quality violation pursuant to the Act or Board rules is prohibited.

Substantive changes to section 501.404 focus on temporary manure stacks. The Agency proposes adding language explaining that temporary manure stacks are potential secondary sources, and therefore are subject to the minimum setback zone as set forth in the Title IV of the Act. Potential secondary sources are defined in the Act as follows: “any unit at a facility or a site not currently subject to removal or remedial action, other than a potential primary source which . . . is utilized for handling livestock waste.” 415 ILCS 5/3.355(6). Under the Act, a new Community Water Supply (CWS) well cannot locate within 200 feet<sup>23</sup> of any temporary manure stack. 415 ILCS 5/14.1. Conversely, a new temporary manure stack cannot locate within 200 feet<sup>24</sup> of a CWS well or any other potable water well.<sup>25</sup> 415 ILCS 5/14.2.

The Agency also proposes changing the mandatory distance between temporary stacks and wells from 100 feet to 75 feet. Proposed section 501.404(b)(2). This proposed change is intended to make the Board’s rule consistent with rules promulgated by the Illinois Department of Public Health under the Illinois Groundwater Protection Act, 415 ILCS 5 (2010). *See* 77 Ill. Adm. Code 920.50(b)(1).

The Agency proposes moving the requirements in current section 501.404(b)(1) to a new subsection (b)(3). Under the current rule, temporary manure stacks must be constructed and maintained to prevent runoff and leachate from entering surface or ground water. The proposed rule retains this requirement, but adds that a pad and cover or other control device must be used to prevent runoff and leachate from entering surface or groundwater. Attachment A, TSD 2-3.

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<sup>23</sup> This distance is increased to 400 feet if the well derives water from fractured or highly permeable bed rock or from an unconsolidated and unconfined sand and gravel formation.

<sup>24</sup> This distance will also increase to 400 feet for the same reasons as in section 14.1 of the Act. *See* 415 ILCS 5/14.2(d).

<sup>25</sup> For potable water wells, other than CWS wells, a waiver of the requirements that new secondary sources not locate within 200 feet may be obtained as set forth in section 14.2(b) of the Act. Additionally, the Board may grant an exception from the requirement of section 14.2.

The Illinois EPA proposes adding language to 501.404(c)(3) to clarify that the requirements of this subsection only apply to livestock management facilities and livestock waste handling facilities that are not required to obtain an NPDES permit. Facilities required to obtain an NPDES permit must follow the proposed effluent limitations and technical standards in Part 502.

Proposed section 501.404(d) clarifies that large, medium, or designated CAFOs cannot construct and operate a runoff field application system. The Illinois EPA proposes to limit the range of facilities that can use the runoff field application system to non-CAFOs because CAFOs have different production area and land application requirements. As point sources, CAFOs that discharge are subject to NPDES permit requirements, including land application best management practices found in Part 502. Furthermore, CAFOs that do not discharge, but have agricultural stormwater runoff, must show that livestock waste has been applied in accordance with the land application best management practices found in Part 502. Attachment A, TSD 3.

Similarly, the Illinois EPA proposes to amend section 501.405(a) to limit this section's applicability to facilities not required to obtain an NPDES permit. The current section contains a general prohibition against land application that exceeds a practical limit, as determined by soil type, condition, slope cover, proximity to surface waters, and likelihood of reaching groundwater. Because proposed Part 502 contains specific land application requirements for permitted facilities, the Agency proposes limiting the applicability of proposed section 501.405 to avoid being less stringent than the federal rule. Furthermore, the land application requirements in Part 502 are also applicable to unpermitted large CAFOs seeking to claim an agricultural stormwater exemption, and therefore, the Illinois EPA proposes adding language

clarifying that these unpermitted large CAFOs must comply with sections 502.102 and 502.510(b). Attachment A, TSD 3-4.

#### **4. Subpart D**

This regulatory proposal seeks to add a new subpart D to Part 501 in response to the proposed federal reporting rule. *Supra* p. 29. Proposed subpart D is entitled “Submittal of Information” and contains one section, 501.505. With this section, Illinois EPA intends that all facilities required to report under a federal rule must also submit the same information to Illinois EPA. This reporting requirement will remain so long as the federal rule is not overturned or stayed by a court. Proposed section 501.505(b).

#### **B. Part 502**

The Illinois EPA proposes to substantially revise Part 502. Overall, proposed Part 502 identifies which facilities are required to obtain an NPDES permit, the permit application procedures, permit issuance and conditions, and effluent limitations and technical standards. Specifically, subpart A incorporates the 2008 federal rule’s obligation on all discharging CAFOs to apply for a permit and codifies the agricultural stormwater exception. Updated permit application requirements, including a requirement for an NMP, are found in proposed subpart B. Proposed subpart C includes the federal permit requirements and the general permit procedures. Subpart D contains the appeal and enforcement provisions, and Illinois EPA is not proposing any changes to this subpart. Subparts E, F, G and H are all new. These sections set forth the requirements for NMPs, the federal effluent limitations and Illinois’ technical standards.

##### **1. When Permits are Required**

Within subpart A, all the existing sections are amended. Illinois EPA proposes replacing all the text of current sections 502.101, 502.102, and 502.105. In section 502.101, the Agency

sets forth the NPDES permit requirement. Subsection (a) provides that a CAFO is a point source, and any discharge from a CAFO is prohibited unless it is authorized by an NPDES permit or is an agricultural stormwater discharge. 40 C.F.R. §122.23(a). Illinois EPA's proposal does not require CAFOs that propose to discharge to obtain an NPDES permit. This subsection also provides that no person shall cause or allow a discharge from a CAFO in violation of state or federal law.

Proposed subsection 502.101(b) provides: "The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges." See 40 C.F.R. §122.23(d)(1). The Illinois EPA proposes adding two qualifications to this federal requirement. The first qualification clarifies the extent of this obligation after the *Pork Producers* case: "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." Proposed section 502.101(b)(1). The Agency consulted the preamble to the 2008 federal rule in drafting this portion of the proposed rule. The preamble states:

CAFOs that have had such intermittent or sporadic discharges in the past would generally be expected to have such discharges in the future, and therefore be expected to obtain a permit, unless they have modified their design, construction, operation or maintenance in such a way as to prevent all discharges from occurring. . . . EPA agrees that not every past discharge from a CAFO necessarily triggers a duty to apply for a permit; however, a past discharge may indicate that the CAFO discharges . . . if the conditions that gave rise to the discharge have not changed or been corrected.

73 Fed. Reg. 70423. USEPA acknowledges that not all past discharges will be treated as an ongoing, continuing, or intermittent violation that will require a NPDES permit. See Attachment I, James Hanlon Memorandum, December 8, 2011. The Agency seeks to include this condition to eliminate confusion as to which facilities need to apply for a permit. If a facility has made



permanent changes to its design, operation, construction, or maintenance that eliminates discharges consistent with the preamble language quoted above, the CAFO will not be required to obtain an NPDES permit.

The second qualification Illinois EPA adds to the federal permit requirement is a prohibition on requiring an NPDES permit for a discharge that does not require a permit under the CWA. Section 12(f) of the Act contains this prohibition, which the Agency repeats in proposed section 502.101(b)(2). Therefore, discharges to waters that are not waters of the United States will not result in a duty to obtain an NPDES permit.

Proposed subsection 502.101(c) explains how a discharging CAFO must follow the permit application procedures in subpart B of 502, and can apply for either an individual or general permit; if the general permit is not available, the discharging CAFO must apply for an individual permit. *See* 40 C.F.R. §122.23(d)(2).

Proposed subsections 502.101(d) and (e) contain the federal timing requirements for applying for and renewing a permit. Under the federal rule, 40 C.F.R. §122.23(f), new facilities must apply 180 days before the CAFO commences operation. Illinois EPA proposes the same requirement in section 502.101(e). For renewal, the federal rule requires CAFOs wishing to continue to discharge to submit a renewal application 180 days before the current permit expires. Proposed section 502.101(d) contains this same requirement.

Proposed subsections 502.101(f) contains the federal requirement that once an AFO is a CAFO for one type of animal, it is a CAFO with respect to all animals in confinement. Proposed section 502.101(f); *see* 40 C.F.R. §122.23(a).

## 2. Agricultural Stormwater

Illinois EPA proposes replacing the text of current section 502.102 with the agricultural stormwater exemption. Previously, section 502.102 contained the permitting exemption for those facilities that only discharge in the event of a 25-year, 24-hour rain event. This exemption was removed from the federal rule in 2003, and the agricultural stormwater exemption was added. *See* 40 C.F.R. § 122.23(e). Illinois EPA also proposes removing the 25-year, 24-hour storm event exception in the current CAFO designation section as well. Proposed section 502.106(e).

Proposed section 502.102(a) provides that CAFOs that have a discharge from the land application area are subject to the NPDES permit requirement, unless the discharge was an agricultural stormwater discharge. Proposed section 502.102(b) clarifies what is an agricultural stormwater discharge: if the CAFO has applied the livestock waste in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients, and in compliance with section 502.510 for permitted facilities and section 502.510(b) for unpermitted facilities, a precipitation related discharge from the land application area is an agricultural stormwater discharge. To document proper livestock waste application, the Agency proposes in section 502.102(c) that unpermitted facilities maintain the records required by section 502.510(b)(15).<sup>26</sup> Under proposed section 502.102(d), the site specific nutrient management practices by both unpermitted large and permitted large CAFOs must be reviewed annually; if the practices change, the NMP must be updated.

## 3. CAFO Designations

Proposed sections 502.103, 502.104 and 502.105 contain the definitions of large, medium and small CAFOs. These definitions contain the same size restrictions as the federal definition

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<sup>26</sup> Permitted facilities, as a condition of their permit, must maintain these records. *See* proposed section 502.320.

of large, medium and small. *See* 40 C.F.R. §122.23(b). In section 502.103, the Agency proposes changing the title from Very Large Operators to Large CAFOs. Likewise, the Agency proposes changing the title of 502.104 from Large Operators to Medium CAFOs. The definition of medium CAFOs retains the requirement that the CAFO must meet one of two discharge conditions contained within the federal rule. *Supra* p. 10. Illinois EPA is also adding subsection (d) which further clarifies that medium CAFOs include those facilities designated as CAFOs pursuant to section 502.106. Facilities meeting the size threshold of a medium CAFO that do not meet one of the two discharge conditions in 502.104(b)-(c) can be designated a CAFO pursuant to section 502.106. Following the federal rule, both definitions of large and medium CAFO remove the concept of animal units.

Current section 502.105 provides that AFOs may voluntarily submit applications for the NPDES program. 35 Ill. Adm. Code 502.105. This section is no longer necessary. The Agency proposes removing the current provisions of section 502.105 and replacing it with the federal requirements for small CAFOs. *See* 40 C.F.R. §122.23(b)(9). A small CAFO is also any CAFO designated pursuant to section 502.106 that does not meet the size threshold of a medium CAFO. Proposed section 502.105.

The Agency proposes updating the case-by-case designation procedure in section 502.106 to match the federal rule. The Illinois EPA proposes adding the same language in the federal rule to subsection (a) that requires the Agency to determine that the AFO is a significant contributor of pollutants to waters of the United States before designating an AFO as a CAFO. The remaining changes to sections 502.106(a) and (b) are non-substantive, clean-up amendments intended to promote consistency throughout the rule. Proposed subsection (c) is amended by removing the requirement that the Agency notify a designated facility in writing of the permit

requirement. The Agency proposes removing this requirement to ensure consistency with the federal rule.

Finally, the Agency proposes changing when a designated CAFO must apply for a permit. Under the current Board rule's, a designated CAFO must apply for a permit within 60 days after being designated. The federal rule, previously silent on this matter, set the time limit at 90 days; likewise, the Agency proposes changing 60 days to 90 days in subsection 502.106(d). *See* 40 C.F.R. §122.23(f)(5).

#### **4. Permit Applications**

The Illinois EPA's proposal makes minor changes to subpart B. The Agency proposes modifying section 502.201 to comply with the federal rule, and to require additional information necessary for the Agency to evaluate the permit application. *See* 40 C.F.R. §122.21(i). The Agency also proposes repealing sections 502.203 and 502.205. The other proposed changes to subpart B update and clarify the existing rule.

The majority of the proposed changes to this subpart are found in section 502.201. This proposed section sets forth the application requirements for all existing and new CAFOs seeking coverage under either a general or individual permit. The proposed provisions, specifically subsections 502.201(a)(1)-(4) and (6)-(11), are federal requirements. *See* 40 C.F.R. §122.21(i). Subsections (a)(1)-(3) require that the applicant submit basic information such as the name of the owner or operator, the facility location and mailing address, and the latitude and longitude of the production area. Under proposed subsection (a)(4), CAFOs applying for a permit must identify the average and maximum number of animals. Proposed subsection (a)(6) requires the applicant describe the type and total capacity of containment and storage.

Proposed subsections 502.201(a)(8)-(11) are taken directly from the federal rule. *See* 40 C.F.R. §122.21(i)(1)(viii)–(x). These subsections require that the applicant include the following in the application: an NMP, an estimate of the amount of livestock waste generated per year and the amount transferred to other people per year, and the total number of acres available for land application of livestock waste.

The applicant must also submit a topographic map under proposed section 502.201(a)(7). The topographic map required under Illinois EPA’s proposal requires additional information beyond the federal rule. In particular, the Agency’s proposal requires the land application areas be included in the topographical map. The applicant must also indicate the location of waterways, and the location and direction of the surface and subsurface drainage and other discharges from the facility on the map. These requirements are not new, but are currently found in the Board’s regulations. *See* 35 Ill. Adm. Code 502.201(a)(4). The Agency proposes retaining these provisions because this information is necessary in determining whether the CAFO will meet the requirements of the Act and Board regulations.

Additionally, the Agency proposes moving the requirements in current section 502.201(a)(2) to proposed section 502.201(a)(5)<sup>27</sup> and moving current section 502.201(a)(5) to proposed section 502.201(a)(14). Current section 502.201(a)(2) requires the CAFO to provide a statement projecting changes in the size of the livestock facility; the proposed amendment will add a requirement that the CAFO advise of any projected changes in the size of the operation, and when the size change may occur. Proposed section 502.201(a)(5). This additional information is necessary in a permit application because it may impact whether an NMP or a permit modification will be needed after the size change occurs, and what conditions are

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<sup>27</sup> The Agency is not proposing any change to this requirement that the applicant submit a statement indentifying and justifying any departure from the design criteria promulgated by the Agency. 35 Ill. Adm. 502.201(a)(5); proposed section 502.201(a)(14).

necessary in the permit to ensure that the CAFO meets the effluent limitations and other conditions in the permit.

The Agency also proposes requiring facilities to include a stormwater pollution prevention plan and a spill control and prevention plan in their permit application. Proposed sections 502.201(a)(12)-(13); Attachment A, TSD 7 and 20. Both the federal rule and Illinois EPA's proposal requires the NMP to include site specific conservation practices to control runoff. 40 C.F.R. §122.42(e)(1)(vi); proposed section 502.510(b)(8). Additionally, under Illinois EPA's proposal, the NMP must also include a spill prevention and control plan. Proposed section 502.510(b)(14).

The Agency also proposes repealing section 502.205 and moving the requirements of this section to proposed section 502.101(e). Proposed section 502.101(e) provides that a new CAFO must apply for a permit 180 days before the facility commences operation. Additionally, amendments to proposed section 502.204 clarify which CAFOs need to apply for renewal as those seeking reissuance of their NPDES permit pursuant to section 502.101(d).

The remaining changes to subpart B are as follows: The Illinois EPA is updating section 502.202 to no longer require registered or certified mail, return receipt requested. The Agency proposes to accept applications that are mailed, delivered, or electronically submitted. The amended title of this section reflects this change. Additionally, the Agency proposes repealing current section 502.203 because the objectives<sup>28</sup> of this section, to facilitate a smooth transition from a federal to a state program, have been met. Finally, proposed amendments to section 502.207 update the title and citation of the Land Trust Beneficial Interest Disclosure Act.

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<sup>28</sup>See *In re Chapter 5: Agriculture-Related Pollution, Section 1: Livestock Waste Regulations*, R72-9, Opinion of the Board, p. 26 (November 14, 1974).

## 5. Permit Requirements

Subpart C contains provisions regarding issuance and conditions of NPDES permits. The Agency proposes amending section 502.304, and adding four new sections: 502.310, 502.315, 502.320, and 502.325. The proposed amendment to section 502.304 adds language directing those seeking coverage under the general permit to follow proposed section 502.310, which sets forth procedures for general permits. Proposed section 502.315 sets forth what must be included in each permit. To be consistent with the federal rule, the Agency also proposes adding section 502.320 (Recordkeeping Requirement) and section 502.325 (Annual Report).

### a. General Permit Requirements

Proposed section 502.310 incorporates the federal requirements for general permits. *See* 40 C.F.R. §122.23(h). Under this proposed section, a second 30 day notice and comment period is required after the Agency proposes to grant coverage under a general permit. The public notice must include the CAFO's entire NMP, not just a draft list of terms that will be incorporated into the permit. Proposed section 502.310(c). Additionally, the Agency proposes applying the applicable permitting procedures in Part 309<sup>29</sup> (which govern public comments and hearing requests, the hearing process if one is requested, and responding to public comments) to the second notice and comment period for CAFO general permits.

Consistent with the federal rule, the Illinois EPA proposes requiring terms of the NMP be incorporated as terms and conditions of the general permit without having to modify the general permit when the Agency authorizes coverage for the CAFO. Proposed section 502.310(g). Also following the federal rule, Agency must notify the public when coverage under the general

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<sup>29</sup> In particular, proposed section 502.310 cross references the procedures in 35 Ill. Adm. Code 309.106, 309.109(b), 309.115, and 309.115 through 309.120, except the Agency is not required to provide notice and transmission of the NMP to USEPA's Regional Administrator for approval as provided in 35 Ill. Adm. Code 309.119. *See* proposed section 502.310(f). This cross reference parallels the federal rule's cross reference in 40 C.F.R. § 122.23(h) to 40 C.F.R. Part 124.

permit is authorized in section 502.310(h). Finally, the Agency has the authority to require individual permit pursuant to section 39(b) of the Act. Proposed section 502.310(i).

**b. Required Conditions for CAFO Permits**

Proposed section 502.315 incorporates the federal permit requirements in 40 C.F.R. §122.42(e)(1)-(2), (4)-(5) (2011). Subsection 502.315(a) provides that each permitted CAFO must implement an NMP that meets the requirements of subpart E of Part 502. Subsection 502.315(b) provides that permitted CAFOs must maintain records for five years, making them available to the Agency upon request. Subsection (c) of section 502.315 requires that CAFO NPDES permits include an annual reporting requirement. Subsection 502.315(d) provides that permits must require the CAFO to comply with the applicable discharge limitations in subparts F, G and H of Part 502.

**c. Record Keeping Requirements**

When the federal rule was amended in 2003, USEPA added record keeping requirements to the CAFO rule. *See* 40 C.F.R. §122.42(e)(2). Under the federal rule, a permitted facility must create and maintain for five years records of NMP implementation and management, records of the production area, and records of the land application area. Illinois EPA proposes adopting all of the federal record keeping requirements in section 520.320. Proposed sections 502.320(a), (c)-(k), (m)-(r), and (w)(8). First, the Agency's proposal adopts the federal requirement that CAFOs keep a copy of the NMP. Proposed section 502.320(i).<sup>30</sup> Also, in conformity with the federal rule, the Agency proposes requiring CAFOs to keep records documenting the implementation and management of the NMP requirements as required by proposed section

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<sup>30</sup> 502.320(i) corresponds with the federal recordkeeping requirement found in 40 C.F.R § 122.42(e)(2)(ii).



502.510(b)(15).<sup>31</sup> Proposed section 502.320(a).<sup>32</sup> The record keeping requirement of proposed section 502.510(b)(15) applies to both permitted facilities and unpermitted large CAFOs claiming an agricultural stormwater exemption. *See* 40 C.F.R. §122.23(e)(i); proposed section 502.102(c).

Proposed subsections 502.320(c)-(h)<sup>33</sup> contain the federal record keeping requirements for the production area of permitted CAFOs. Each permitted CAFO must keep records of all required visual inspections, weekly depth marker measurements in liquid livestock waste storage, records of any corrective action taken to correct any deficiency of the production area, records of mortality management practices, and the date, time, and volume of any overflow from the production area.

Illinois EPA proposes adding the following record keeping requirements for the production area. The permitted CAFO must keep records of the maximum number and type of animals. Proposed section 502.320(s). The quantity of livestock waste removed when a manure storage area or waste containment area is dewatered must also be recorded. Proposed section 502.320(v)); Attachment A, TSD 58. In addition, the Agency's proposed rule requires CAFOs to keep the laboratory analysis sheets for livestock waste samples on file at the facility during the permit and for five years after the expiration of the permit. Proposed section 502.320(x).

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<sup>31</sup> These records include records showing (1) adequate storage areas and land application areas, (2) how application rates are determined, (3) proper mortality management, (4) proper disposal of chemicals, (5) how clean water is diverted from the production area, (6) how animals are prevented from coming in contact with waters of the United States, (7) implementation of winter land application plan, (8) implementation of spill prevention and control plan, (9) inspection of subsurface drainage systems, (10) methods of runoff control, and (11) livestock waste and soil testing.

<sup>32</sup> 502.320(a) corresponds to the federal record keeping requirement found in 40 C.F.R. § 122.42(e)(2)(i)(A).

<sup>33</sup> 502.320(c)-(h) are consistent with the federal recordkeeping requirement found in 40 C.F.R. §412.37(b).

Proposed subsections 502.320(m)-(r), (w)(8), and (y)<sup>34</sup> contain the federal record keeping requirements for the land application areas of permitted CAFOs. Permitted CAFOs that land apply must keep records of the expected crop yields, dates and methods of land application, dates of equipment inspections, testing methods and sampling protocols for livestock waste, sampling results, explanation of land application rates, total nitrogen and phosphorous calculated to be applied and actually applied to each field, and weather conditions 24 hours before, during and 24 hours after each land application. The Illinois EPA also proposes a record keeping requirement for CAFOs that transfer livestock waste to others. The CAFO must keep records of the amount transferred to each recipient in gallons or dry tons. Proposed section 502.320(w)(7). This requirement is consistent with the federal rule.<sup>35</sup>

Illinois EPA proposes adding additional record keeping requirements for the land application area. Proposed section 502.320(l), (u) and (w). CAFOs must keep records of subsurface drainage inspections, and total acreage of land application area covered by the NMP. Proposed section 502.320(l) and (u); Attachment A, TSD 58. The Agency also proposes adding additional record keeping requirements for each day that livestock waste is land applied. Proposed section 502.320(w). The CAFO must record the amount applied; the method of application; the condition of the soil; an estimate of the amount of precipitation 24-hours before, during, and 24-hours after land application; the location of the field; result of leak inspection of land application equipment; and forecasts for the 24 hours preceding land application. Attachment A, TSD 58-59.

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<sup>34</sup>Proposed section 502.320(m)-(r), (w)(8), and (y) are consistent with the federal recordkeeping requirement found in 40 C.F.R. §412.37(c).

<sup>35</sup> This requirement is also a federal requirement, found in 40 C.F.R. § 122.42(e)(3). Illinois EPA's proposal also contains this record keeping requirement in proposed section 502.610(k).

Additionally, the Illinois EPA proposes that CAFOs keep records of permit applications submitted, and all records necessary to generate the annual report. Proposed sections 502.320(b) and (t).

**d. Annual Report**

Proposed section 502.325 contains the minimum elements of the annual report that must be submitted by all permitted CAFOs. The information submitted is necessary to evaluate the current the NPDES permit requirements. These annual reports will also inform the Agency and the public how the CAFO has been operated in the past 12 months. *See* 73 Fed. Reg. 70455; 68 Fed Reg. 7231.

The annual report must contain 13 minimum elements. Proposed section 502.325(b).<sup>36</sup> Illinois EPA proposes requiring that each CAFO report whether it has violated its NPDES permit in the previous 12 months. Proposed section 502.325(b)(8); *see* 40 C.F.R. §§122.41(l)(6)-(7) and 122.44(i)(5); Attachment A, TSD 8. Additionally, the annual report must include a summary of all discharges from the production area, including the date, time and volume of the discharge. Proposed section 502.325(b)(7). Information on the animals housed at the CAFO, regardless of the type of structures used to confine the animals, must also be included. Proposed section 502.325(b)(1). The annual report must contain an explanation of who developed the NMP, and whether this person is a certified nutrient management planner. Proposed section 502.325(b)(6). A certified nutrient management planner is not required; however, knowing which facilities have NMPs developed by a certified planner will help the Agency and USEPA focus their compliance assistance efforts and help the Agency determine the level of permit review necessary. 68 Fed. Reg. 7231.

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<sup>36</sup> All but one of these elements are from the federal annual reporting requirements in 40 C.F.R. § 122.42(e)(4).

The annual report must contain the following information for livestock waste for the previous 12 months: the amount of waste generated, the actual nitrogen and phosphorous content of livestock waste, and the amount of waste transferred to another person. Proposed section 502.325(b)(2)-(3), (10). For land application, the annual report must include the acreage of land application area covered by the NMP, the number of acres actually used, the amount of livestock waste land applied to each field, and the actual crops planted and yields for each field used for land application. Proposed section 502.325(b)(4)-(5), (9), (12). The annual report must also contain the required calculations for the linear and narrative approaches, described in proposed section 502.515(d) and (e). *See* Proposed section 502.325(b)(11). For CAFOs using the narrative approach, the annual report must include the following additional information: the results of soil tests, the data used for required calculations, and the amount of supplemental fertilizer applied in the last 12 months. Proposed section 502.325(b)(13).

#### **6. Effluent Limitations for the Production Area**

The Agency proposes adopting the same federal effluent limitations for the production area as set forth in 40 C.F.R. Part 412. *Supra* pp 17-19. While the effluent limitations are the same, the Agency has decided to organize them in a manner different from the federal rule which has four subparts in Part 412. The Agency's proposal only has three subparts: F, G and H. In its reorganization, the Illinois EPA recognized that, except for NSPS, the effluent limitation for all dairy cows, cattle, veal, swine and poultry CAFOs are the same. Therefore, the Agency proposes putting all of these effluent limitations in subpart F. The NSPS for dairy cows and cattle CAFOs is found in subpart G. The NSPS for swine, poultry and veal CAFOs is found in subpart H. Additionally, all effluent limitations for horse, sheep and duck CAFOs are found in subpart G.

**a. Applicability of Production Area Effluent Limitations**

Another distinction from the federal rule is the scope of the effluent limitations. Under the federal rule, the effluent imitations in Part 412 apply only to large CAFOs. The Agency proposes following the federal size limitation for all effluent limitations in proposed subparts G and H. Unlike the federal rule, proposed subpart F does not contain this size restriction. Proposed section 502.600. The effluent limitations in subpart F for both the production area and the land application area apply to all permitted cattle, dairy cows, swine, poultry, and veal CAFOs that are not subject to the NSPS in subparts G and H. *Id.* Therefore, small and medium cattle, dairy cows, swine, poultry, and veal CAFOS are also subject to the effluent limitations in subpart F. Attachment A, TSD 21.

**b. Production Area Effluent Limitations contained in Subpart F**

Proposed section 502.605 contains the federal BPT, BAT and BCT for the production area of dairy cows, cattle, veal, swine and poultry CAFOs.<sup>37</sup> It prohibits a discharge from the production area unless the production area is designed, constructed, operated and maintained to contain all livestock wastes including the runoff and direct precipitation from a 25-year, 24-hour rainfall event. To clarify this exception's applicability does not apply to new source swine, poultry or veal CAFOs, the Agency proposes adding an exclusion from the 25-year, 24-hour rainfall exception for large swine, poultry or veal CAFOs that are new sources. Proposed section 502.605(a)(1). Under the Agency's proposal, any point source which is subject to subpart F must attain the effluent limitations in this section by the date of permit coverage.<sup>38</sup>

To have a permissible discharge from the production area, the CAFO must be operated in accordance with the "additional measures" and keep additional records as required under section

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<sup>37</sup> See 40 C.F.R. §§412.31, 412.32, 412.33, 412.43, 412.44, and 412.45.

<sup>38</sup> See 40 C.F.R. §412.31(a)(3).

502.610. The “additional measures” in proposed section 502.610 contain all of the federal “additional measures” found in 40 C.F.R. §412.37. The proposed requirements for visual inspections in section 502.610(c), a depth marker in section 502.610(d), and corrective actions in section 502.610(e) are identical to the federal requirements discussed earlier in this document.<sup>39</sup> *Supra* p. 17. In addition, Illinois EPA’s proposal includes the federal requirement that CAFOs failing to correct deficiencies within 30 days provide an explanation of factors preventing immediate correction. Proposed section 502.610(f); *See* 40 C.F.R. § 412.37(b)(3).

The Illinois EPA proposes modifying the federal “additional measures” requirement for mortality handling. The federal rule does not prohibit discharges from dead animals or from dead animal disposal facilities. The first line of proposed section 502.610(g), however, provides: “Discharge to waters of the United States of pollutants from dead livestock or dead animal disposal facilities are prohibited.” Additionally, the Agency proposes expanding the federal ban on disposing animals in liquid manure or process wastewater systems to include a prohibition on disposing dead animals in liquid manure storage structures, egg wash water facilities, egg processing wastewater facilities, areas to hold products, by-products or raw materials set aside for disposal, and contaminated stormwater facilities. Attachment A, TSD 47-48.

Proposed section 502.610(k) contains the federal “additional measure” relating to the transfer of livestock waste to other persons. *See* 40 C.F.R. §122.42(e)(3). Under this proposed provision, the CAFO must provide the recipient of livestock waste with the most current nutrient analysis. Additionally, this proposed subsection also repeats the record keeping requirement that the CAFO retain records of transfers for five years. This record keeping requirement is also found in proposed section 502.320(w)(7).

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<sup>39</sup> The federal requirement for visual inspections is found in 40 C.F.R. §412.37(a)(1); for depth marker in 40 C.F.R. §(a)(2); and corrective action in 40 C.F.R. §412.37(a)(4).

The Illinois EPA's proposal contains "additional measures" not specifically found in the federal rule, but having distinct ties to the federal rule requirements. These are found in subsections 502.610(a), (b), and (h). The Agency added these subsections to section 502.610 to tie the "additional measures" together with the stated requirements of the NMP in proposed section 502.510(b). Under proposed section 502.510(b)(3), each CAFO must ensure adequate storage of livestock waste, including procedures to ensure proper operation and maintenance of the storage facilities.<sup>40</sup> The "additional measure" found in section 502.610(a) extends this NMP requirement to the entire production area: the facility must be properly operated and maintained in order to have a permissible wet weather discharge. Likewise, proposed section 502.510(b)(6)<sup>41</sup> requires that the NMP prevent animals from coming into direct contact with waters of the United States, and the "additional measure" in proposed section 502.610(b) requires this condition be met to allow a discharge under the permit. Finally, in section 502.610(h), CAFOs must not dispose chemicals or other contaminants into any livestock waste or stormwater storage or treatment system unless specifically designed to treat such chemicals or other contaminants. Attachment A, TSD 48. This "additional measure" correlates to the NMP requirement that chemicals and other contaminants handled on-site are not disposed of in livestock waste storage, stormwater storage, lagoons or digester systems that are not specifically designed to handle or treat such chemicals. Proposed section 502.510(b)(7).

The Agency also proposes "additional measures" for livestock waste storage in proposed sections 502.610(i), (j) and (l). There will be times throughout the year, such as during the frozen winter months or the rainy spring season, when CAFOs will be unable to apply livestock waste to land. A CAFO not designed to effectively store all livestock waste generated in periods

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<sup>40</sup> The federal rule has a similar requirement in section 122.42(e)(1)(i).

<sup>41</sup> See 40 C.F.R. 122.42(e)(1)(iv).

between emptying events may have a discharge from the production area. To avoid this, the Agency proposes required storage volume requirements in subsection 502.610(l)(1). Waste storage structures must have at least a 180-day storage capacity. This storage capacity will vary for each CAFO because each CAFO produces different amounts of waste. In calculating the storage capacity, the CAFO must include the total amount of waste and wash water generated over 180 days, anticipated stormwater runoff and direct precipitation generated over 180 days, the runoff and precipitation from a 25-year, 24-hour storm, the accumulation of sludge, if any, and the design volatile solids loading if applicable. Proposed section 502.610(l). For structures left open to precipitation, the storage volume must include two feet of freeboard. The 180-day storage requirement does not apply to pump stations, settling tanks, pumps, piping, or other components that transport or temporarily hold waste. Proposed section 502.610(l)(2). Attachment A, TSD 50-51.

In addition to the required storage volume, Illinois EPA proposes including as an “additional measure” the inspection of lagoon berms. Proposed section 502.610(i) obligates CAFOs using an earthen lagoon, manure structure or waste containment area to inspect the berm tops and exterior berm sides, and to the extent possible, the interior berm sides. The CAFO should look for evidence of erosion, animal burrowing, or other degradation of the berms. In order to comply with the required “additional measures” and have a permissible discharge pursuant to proposed section 502.605(a), the berms must be inspected at least once a week. This proposed section is consistent with and contains more detail than the federal rule which requires weekly inspections of all waste storage facilities. *See* 40 C.F.R. §412.37(a)(1)(iii); Attachment A, TSD 49.



The final “additional measure” that the Agency proposes is the removal of accumulated sludge from liquid manure and waste storage areas. Solid waste that accumulates in these areas affects the operation and biological condition of the stored manure. Attachment A, TSD 49. In section 502.610(j), the Agency proposes CAFOs remove the sludge in these areas so as to ensure proper operation of the waste containment areas.

Like the federal rule, the Agency proposal contains a second exception to the no discharge limit in proposed section 502.605(a). In proposed section 502.605(c), the Agency incorporates the language of the federal rule’s voluntary alternative performances standards, making only non-substantive changes. *See* 40 C.F.R. §412.31(a)(2); *supra* p.18.

**c. Production Area Effluent Limitations contained in Subpart G**

Subpart G contains the NSPS for dairy cow and cattle CAFOs, and the effluent limitations for the production area of horse, sheep and duck CAFOs. The federal NSPS for dairy cows and cattle CAFOs is found in proposed section 502.710. This proposed NSPS is the same as the effluent limitation for existing for dairy cows and cattle CAFOs. Therefore, the above discussion for production area effluent limitations in subpart F is applicable to large dairy cows and cattle CAFOs that are new sources as well.

Proposed subpart G, section 502.720, contains the federal production area effluent limitations for large horse and sheep CAFOs: subsection (a) sets forth the same BPT found in the federal rule at 40 C.F.R. §412.12; subsection (b) sets forth the same federal BAT from 40 C.F.R. §412.13; subsection (c) sets forth the federal NSPS found in 40 C.F.R. §412.15. *Supra* pp. 16, 8. This effluent limitation has been in the federal rule since 1974.

Illinois EPA proposes including the production area effluent limitations for ducks in subpart G as well. Proposed section 502.730 applies to large duck CAFOs and contains the same

effluent limitation attainable after application of BPT and the NSPS as contained in the federal rule in 40 C.F.R. §412.22, and 412.25. Subsection (a) of proposed section 502.730 contains the numerical BPT, and subsection (b) contains the NSPS. *Supra* pp. 16, 8. Like the limitations for horses and sheep, these effluent limitations have been in place since 1974.

**d. New Source Performance Standards contained in Subpart H**

The NSPS for swine, poultry, and veal CAFOs in proposed subpart H is the same NSPS as required under the federal rule in 40 C.F.R. §412.46. Proposed subpart H contains five new sections. The first section, 502.800, clarifies that the NSPS apply only to swine, poultry, and veal CAFOs that are large and that are new sources. The definition of new source, proposed section 501.333, is the same as the definition contained in the federal rules at 40 C.F.R. §122.2. A facility is a new source if its construction commenced after the promulgation of applicable standards under section 306 of the Clean Water Act. The first NSPS were promulgated for swine, poultry and veal CAFOs in 1974. In 1974, however, swine, poultry, and veal CAFOs had the same NSPS as all other CAFOs except ducks. *See* 39 Fed. Reg. 5704; *supra* pp. 8-9. In 2003, USEPA subdivided Part 412 into 4 subparts, grouping swine, poultry, and veal into its own subpart. It also adopted a new and different NSPS for these facilities. This NSPS was amended in 2008.

The NSPS in proposed subpart H will not apply to all new sources. If the new source was constructed to meet the applicable federal standards of performance at the time of construction, then the new source is exempt from a more stringent federal standard of performance for the ten-year period after construction is complete or during the period of depreciation or amortization, whichever is shorter. 35 Ill. Adm. Code 502.303.<sup>42</sup>

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<sup>42</sup> The Agency's New Source Standards in section 502.303 are based on federal regulations found in 40 C.F.R. §122.29(d) and is not being changed in this proposal.

New sources, in addition to meeting the requirements of subpart H, must also follow the requirements for existing sources in subpart F. Proposed section 502.800(b) provides that all requirements of subpart F, except the production area effluent limitation in section 502.605, are applicable to swine, poultry, and veal CAFOs that are new sources. The “additional measures” found in proposed section 502.610 are therefore applicable to the production area of swine, poultry, and veal CAFOs which are new sources. Requiring new sources to follow the same additional measures as existing sources is a federal requirement found in 40 C.F.R. §412.46(a)(2).

Proposed subpart H contains the NSPS for both the production area and the land application area. The land application area limitations are the same as for existing CAFOs and will be described below. Proposed section 502.820. The production area effluent limitation is no discharge unless the CAFO complies with alternative BMP discharge limitations set forth in proposed section 502.830. Proposed section 502.810. This alternative approach is the same as the BMP alternative under the federal rule found in 40 C.F.R. §412.46(a)(1). *Supra* p. 19. CAFOs with open surface waste storage can achieve the limitation of no discharge by following the site-specific BMPs established by the Agency. These BMPs must be based on the facility’s specific site and technical evaluation. The technical evaluation is based on the design of the open surface structure. The design must be based on the minimum amount of storage necessary during the rainy season, or any chronic rainfalls. Another element that must be considered in the design is when the storage structure will be emptied. Therefore, prohibitions on land application, such as in winter, as well as emptying schedules and the amount of waste transferred to other facilities is relevant. The actual design must be determined using the National Resource

Conservation Service's Animal Waste Management software.<sup>43</sup> To determine the efficacy of the open storage structure, the CAFO will also need to evaluate the amount of waste going into the structure, daily precipitation, temperature and evaporation data, and planned crop rotation. The technical evaluation must include the final modeled results showing that the open storage structure will not overflow. As provided in the federal CAFO rule, this modeling must be performed using the Soil Plant Air Water (SPAW) Hydrology Tool unless the Agency has approved an equivalent alternative.<sup>44</sup>

#### **7. Effluent Limitations – Land Application**

Under the federal rule, the land application effluent limitations are the BMPs of developing an NMP, determining the proper application rates, sampling soil and manure, inspecting equipment for leaks, and complying with setback requirements. See 40 C.F.R. §412.4(c). The determination of application rates in compliance with the technical standards established by the permitting authority is a key component to the federal rule. *Id.* Illinois EPA proposes technical standards for determining the proper application rate of livestock waste in proposed section 502.615 through 502.645. These technical standards include the federal BMPs of routine inspections of equipment, manure sampling and soil sampling requirements, and setback requirements. Additionally, the Agency proposes technical standards to be followed in conducting field assessments, determining application rates, and applying livestock waste on land.

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<sup>43</sup>The AWN software tool is found on the internet at <http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/alphabetical/mnm/?&cid=stelprdb1045812>, last modified December 2, 2011, viewed on December 7, 2011.

<sup>44</sup> SPAW is publically available online at <http://hvdrolab.arsusda.gov/SPAW/Index.htm>, revised October 29, 2009, viewed on December 7, 2011.

**a. Applicability of Land Application Effluent Limitations**

The land application effluent limitations are contained in proposed subpart F, sections 502.615 to 502.645. Proposed subpart F's applicability section states that subpart F applies to all permitted CAFOs, other than horse, sheep and duck CAFOs. Proposed section 502.600. Therefore, under the Agency's proposal, horse, sheep and duck CAFOs do not have effluent limitations for land application areas; this is consistent with the federal rule. The remaining types of permitted CAFOs (dairy cows, cattle, veal, swine and poultry) all have the same land application effluent limitations. Proposed sections 502.615 to 502.645. The effluent limitations described below apply to new sources because the land application NSPS found in proposed section 502.710(c) and proposed section 502.820 cross references the requirements found in subpart F, sections 502.615-502.645.

For unpermitted large CAFOs, whether existing or new sources, portions of the land application effluent limitations are applicable as follows. Proposed section 502.600 provides that unpermitted large CAFOs claiming an agricultural stormwater exemption consistent with section 502.102 are subject to portions of subpart F. Proposed section 502.102 provides that unpermitted large CAFOs must comply with the NMP requirements in 502.510(b) to claim that runoff from the land application area is agricultural stormwater. Specifically, proposed section 502.510(b)(12) requires CAFOs to develop a wintertime land application plan meeting the requirements of proposed section 502.630, and proposed section 502.510(b)(11), a CAFO cannot land apply within the setback distances in proposed section 502.645(a) or within areas prohibited by Part 502. Additionally, under proposed 502.510(b)(10), unpermitted large CAFOs are required to develop "protocols to land apply livestock waste in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in

the livestock waste.” An unpermitted CAFO can demonstrate compliance with proposed section 501.510(b)(10) by following the land application effluent limitations and technical standards.<sup>45</sup> If an unpermitted large CAFO uses alternative standards, the CAFO must demonstrate that these alternative standards are appropriate and in conformity with proposed section 502.510(b) in order to claim an agricultural stormwater exemption. 73 Fed. Reg. 70435.

**b. Inspection and Calibration of Land Application Equipment**

Under proposed section 502.640, CAFOs must periodically inspect land application equipment for leaks.<sup>46</sup> Illinois EPA also adds the following technical standards: the equipment must be properly calibrated on a routine basis, and calibration procedures and schedules must be described in the NMP. Proposed section 502.640(b)-(c). These additional technical standards will prevent unintentional discharges because the calibration of land application equipment allows the livestock waste to be applied at a particular rate, and if improperly calibrated, livestock waste may be over applied. Attachment A, TSD 54-55.

**c. Soil and Livestock Waste Testing**

Under the Illinois EPA’s proposal, the NMP must contain protocols for appropriate testing of livestock waste and soil. Proposed section 502.510(b)(9). The Agency proposes

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<sup>45</sup> This is the same interpretation under the federal rule. In explaining the relationship between unpermitted large CAFOs and technical standards—the USEPA stated: “Under this final rule, a precipitation-related discharge from land application areas under the control of an unpermitted Large CAFO constitutes an agricultural stormwater discharge where the CAFO has land applied manure, litter, or process wastewater in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater, as specified in § 122.42(e)(1)(vi)–(ix). Nutrient management practices and rates of application satisfy the requirements of 40 CFR 122.42(e)(1)(viii) when they are in accordance with technical standards established by the Director. The form, source, amount, timing, and method of application of nutrients are essential components of the protocols for land application of manure, litter, or process wastewater specified in § 122.42(e)(1)(viii). As explained below, CAFOs that land apply using nutrient management practices based on standards other than the technical standards established by the Director would have to demonstrate that such practices ensure the appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater as specified in § 122.42(e)(1)(viii).” 73 Fed. Reg. 70435.

<sup>46</sup> This section incorporates the federal BMP found in section 40 C.F.R. § 412.4(c)(4).

technical standards for testing of livestock waste and soil in section 502.635.<sup>47</sup> Soil samples must be taken from each field that the CAFO anticipates using for land application. Additionally, for fields actually being used for land application, soil samples are required twice during the five-year term of the permit. The Agency's proposal requires more frequent testing than the federal rule, which only requires one soil test during the term of the permit. Attachment A, TSD 51-54. The two soil samples must be taken at least one year apart, and must be taken at the same time in the cropping cycle and rotation. The Agency proposes requiring CAFOs to use protocols established by the Illinois Agronomy Handbook to gather the soil to be sampled for phosphorus and protocols from the North Central Region—University of Missouri Soil Testing Lab for laboratory analysis.<sup>48</sup> *Id.*; proposed section 502.635(a).

Both the narrative and the linear approach to determining application rates require the livestock waste to be sampled every year. Proposed section 502.635(b) contains the technical criteria that must be followed when sampling and testing livestock waste.<sup>49</sup> To obtain a representative sample, samples from different parts of the livestock waste must be compiled into one sample. Attachment A, TSD 52. The required testing, which includes total kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids, must be done by a laboratory. Attachment A, TSD 52. Results from testing done the previous year may be used in determining proper application rates only if waste management practices have not changed from the previous year. The Agency, however, recommends using long term averages when the waste storage and handling systems have not changed. Attachment A, TSD 53.

#### **d. Setback Requirements**

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<sup>47</sup> This section incorporates the federal BMP found in section 40 C.F.R. §412.4(c)(3).

<sup>48</sup> These two sources are incorporated by reference at section 501.200.

<sup>49</sup> See 40 C.F.R. §§ 122.42(e)(5)(i)(B), 122.42(e)(5)(ii)(D), and 412.4(c)(3).

An additional technical standard for nutrient management is the proposed setback requirements in section 502.645. In this section, the Agency proposes incorporating and expanding upon the federal BMP setback requirement from waters. *See* 40 C.F.R. §412.2(c). Consistent with the federal rule, the Agency proposes prohibiting application of livestock waste within 100 feet of any down gradient open subsurface drainage intakes, agricultural drainage wells, sinkholes, or other conduits to surface water. Proposed section 502.645(b)(2). In addition, the Agency's proposal specifies that grassed waterways are a conduit, and therefore subject to the 100 foot setback requirement. The exceptions to this setback requirement are the same as the federal rule: a 35 foot vegetative buffer<sup>50</sup> or a demonstration of alternative conservation practices showing equivalent or better pollutant reduction. *See* 40 C.F.R. §412.4(c)(5)(i)-(ii); proposed section 502.645(b)(2)-(3). The Illinois EPA's proposal also expands the federal rule's 100 foot setback from down-gradient surface waters to 200 feet unless, the water is upgrade or there is adequate diking.<sup>51</sup> Proposed section 502.645(b)(1); Attachment A, TSD 55. This setback from surface waters does not have a vegetative buffer or alternative conservation practices exception.

The Illinois EPA's proposal contains additional setbacks not explicitly found in the federal rule. A CAFO cannot land apply livestock waste to waters of the United States, grassed waterways, or other conduits to surface water. Proposed section 502.645(d). CAFOs are also prohibited from applying livestock waste within 200 feet of any potable water well supply. Proposed section 502.645(e). Additionally, CAFOs cannot apply livestock waste to a field within one-fourth of a mile of a non-CAFO residence or within a 10-year flood plain unless the CAFO injects or incorporates the livestock waste into the soil on the day it is applied. Proposed

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<sup>50</sup> Definition of vegetative buffer is in proposed section 501.377.

<sup>51</sup> The 200 foot setback provision is derived from section 20(f) of the LMFA.



section 502.645(a) and (c). The Agency proposes adding these additional setback requirements to be consistent with the Livestock Facilities Management Act (LMFA), 510 ILCS77/20(f)(5)-(8)(2010), Attachment X; Attachment A, TSD 55-56.

**e. Field Assessments**

The first step in developing the land application portions of an NMP is to determine the nutrient transport potential. The potential for nutrients to be transported to waters of the United States depends on numerous factors, including soil types, soil conditions, vegetative or constructed barriers for runoff and erosion control, and proximity to wells, surface waters or subsurface drains. Proposed section 502.615(a). A CAFO may ascertain these factors by conducting a site-specific field assessment for each field used for land application. *Id*; Attachment A, TSD 18-19, 23. Based on the outcome of the field-specific assessment, the CAFO must determine the appropriate nitrogen-based or phosphorous-based application rate for each field. Proposed section 502.615(b).

Proposed subsection 502.615(c) explains when nitrogen-based application can be done based on the outcome of the field specific assessment. Nitrogen based application is only permissible when there is less than 300 pounds per acre of available phosphorous in the soil. Proposed section 502.615(c)(2). Furthermore, nitrogen based application is not permissible when the soil loss for the field, calculated using the Revised Universal Soil Loss Equation (RUSLE2),<sup>52</sup> is greater than the erosion factor T. Proposed section, 502.615(c)(3); Attachment A, TSD 32-33.

Moreover, other physical characteristics of the field will determine when and where nitrogen based application may be used. Specifically, the setback requirements of proposed

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<sup>52</sup> The RUSLE2 database is made publicly available online by the NRCS at [http://fargo.nserl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_Index.htm](http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm) , viewed on August 29, 2011.

section 502.645 must be followed. Proposed section 502.615(c). In addition to these setback requirements, where surface waters are on the assessed field or within 200 feet of the field, livestock waste must be injected or incorporated within 24 hours of application. Proposed section 502.615(c)(6). If the fields contain conduits, such as sinkholes, tile inlets, well heads, or ditches that are less than 400 feet from surface waters, the setback from these conduits is increased to 150 feet if there is no vegetative buffer and 50 feet if there is a vegetative buffer. Proposed section 502.615(c)(4)-(5). If these setback requirements cannot be met, or soil loss or phosphorous levels are too high, the nitrogen-based application rate cannot be used. Proposed section 502.615(c)(7); Attachment A, TSD 15-20, 22-34. Instead, phosphorous-based application rates must be used. Proposed section 502.615(c)(7).

Like the nitrogen based application restrictions, the phosphorus based application must meet the setback requirements in section 502.645. Proposed section 502.615(d)(1). The phosphorus rate cannot exceed the annual agronomic nitrogen demand of the next crop grown, and therefore, when using phosphorous-based application, the CAFO must still consider the amount nitrogen being applied to the field. Proposed section 502.615(d)(2); Attachment A, TSD 35. The applicable phosphorus-based application rate is also affected by the amount of phosphorus in the soil. If the soil contains more than 50 pounds per acre, but less than 300 pounds per acre, the CAFO may use a multi-year phosphorus application rate. Proposed section 502.615(d)(3); Attachment A, TSD 23. This is permissible so long as the amount of phosphorus in the soil remains neutral over the term of the permit. Proposed section 502.615(d)(3); Attachment A, TSD 23. If the soil contains more than 300 pounds per acre, but less than 400 pounds per acre, the Agency proposes restricting CAFOs to using a lower, single-year phosphorus application rate. Proposed section 502.615(d)(4). Under the single year rate, the

CAFO may only apply livestock waste at a rate which will replenish the amount of phosphorous removed by next year's crop. The Agency proposes this requirement to limit and reduce phosphorous runoff to surface waters. Attachment A, TSD 24-26. If the soil contains more than 400 pounds per acre, the Agency proposes prohibiting land application of livestock waste on that field. Proposed section 502.615(d)(5); Attachment A, TSD 25.

**f. Determination of Rates**

When determining the proper application rate, a CAFO must consider numerous factors including the agronomic nitrogen rate, field conditions, and phosphorus concentrations in the soil. A CAFO may not apply livestock waste in excess of the agronomic nitrogen rate,<sup>53</sup> regardless of whether the application is nitrogen or phosphorus-based. Proposed section 502.625(a). Therefore, the agronomic nitrogen rate is the upper limit for both nitrogen and phosphorus based application. The realistic crop yield goal is an important factor in calculating the agronomic nitrogen rate, and must be determined for each crop on each field. Proposed section 502.625(e)(1). Additionally, CAFOs must use the Illinois Agronomy Handbook to find the nitrogen and phosphorous fertilization rates necessary to achieve the realistic crop yield goal. Proposed section 502.625(h); Attachment A, TSD 38.

Under the Illinois EPA's proposed rules, the realistic crop yield should be determined using an average crop yield over a five year period. Proposed section 502.625(e)(1); Attachment A, TSD 36. Therefore, if five years of data, excluding years with crop disasters, is available, the CAFO should use the average of these proven yields to determine the realistic crop yield. Proposed section 502.625(e)(2). While this proven yields method is preferred, a CAFO can use a different crop goal if it can show an agronomic basis for doing so. *Id.* If five years of data is

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<sup>53</sup> The agronomic nitrogen rate is the amount of nitrogen needed by the next crop to produce a realistic crop yield. TSD 28.

unavailable, the CAFO will be unable to use the proven yields, and must consult one of the sources listed in proposed section 502.625(e)(2)(A)-(B) to determine the realistic crop yield goal. The first alternative is to use crop insurance or USDA's Farm Service Agency. Proposed section 502.625(e)(2)(A). Second, if the crop insurance or Farm Service Agency is unable to provide data on the realistic crop yield goal, the CAFO should consult the Average "Crop, Pasture and Forestry Productivity Ratings for Illinois Soils" (Bulletin 810) or "Optimum Crop Productivity Ratings for Illinois Soils" (Bulletin 811) to determine the realistic crop yield goal by using a weighted average of the yield estimates determined from the bulletins. Proposed section 502.625(e)(2)(B); Attachment A, TSD 37. CAFOs using either Bulletin 810 or 811 must include a soil map of the land application area.<sup>54</sup> Proposed section 502.625(e)(2)(B)(i). CAFOs that use Bulletin 811 must demonstrate in the NMP that optimum conditions for crop production will exist on the field and for the crop. Proposed section 502.625(e)(2)(B)(ii).

In addition to realistic crop yield goals, a CAFO must know the total amount of nitrogen available to the crops to determine the agronomic nitrogen rate. Nitrogen will come from the livestock waste to be applied and residual nitrogen on the fields. An operating CAFO can analyze representative samples of the livestock waste to determine the amount of nitrogen in the waste. For facilities which are not yet operational, the CAFO can consult secondary sources listed in proposed section 502.625(c), but may also have to adjust the amount of nitrogen that will be lost due to the type of storage system used.<sup>55</sup> Proposed section 502.625(c). In addition,

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<sup>54</sup> Bulletin 810 and 811 are incorporated by reference in proposed section 501.200.

<sup>55</sup> The Midwest Plan Service MWPS-18, "Livestock Waste Facilities Handbook" and "Manure Characteristics" are incorporated by reference in proposed section 501.200. The Livestock Waste Facilities Handbook explains: "Housing and waste handling systems affect the nutrient composition of wastes. Bedding and water dilute manure, resulting in less nutrient value per pound. Much nitrogen can be lost to the air as ammonia. Runoff and leaching in the open lots can remove nitrogen." P. 10.1.

the CAFO must consider the amount of nitrogen lost during application, which will vary depending on the chosen method of application. Proposed section 502.625(d)(1).

The total nitrogen contained in the livestock waste applied to fields consists of both organic nitrogen and ammonium nitrogen ( $\text{NH}_4$ ). Ammonium nitrogen can be used by the crops immediately during the year that the livestock waste is applied. Attachment A, TSD 17. Organic nitrogen, on the other hand, must mineralize and be converted to ammonium nitrogen and is released during the second, third and fourth cropping years. *Id.* The amount of organic nitrogen that mineralizes in the first year must be considered in calculating the agronomic nitrogen rate. *Id.*; proposed section 502.625(d)(2).

Since not all of the organic nitrogen in the livestock waste will mineralize during the first year, the CAFO must consider the amount of organic nitrogen in the soil from previous livestock applications that will mineralize during the cropping season. Proposed section 505.625(f); 502.505(n)(7); Attachment A, TSD 17. With each year that passes, the amount of organic nitrogen that remains from a land application of livestock waste decreases; taking this into account, the Agency proposes a different calculation of the nitrogen credit for mineralized organic nitrogen for each year. The nitrogen credit for the year after land applying livestock waste will be 50% of the amount of organic nitrogen that initially mineralized after application. For the second and third year after land applying livestock waste, the credit will be 25% and 12.5% respectively of the amount of organic nitrogen that initially mineralized. Proposed section 505.625(f)(2). In addition to nitrogen credits from previous land application, nitrogen producing crops, and other sources of nitrogen such as fertilizer must be taken into consideration when calculating nitrogen credits. Proposed section 505.625(f)(1); Attachment A, TSD 36.

Proposed section 502.625(g) also requires CAFOs to consider factors affecting the amounts of phosphorus in the soil when determining application rates. The CAFO must consider the following factors when determining the phosphorus-based application rate: the amount of phosphorous in the livestock waste, the realistic crop yield goal, the amount of phosphorus needed for each crop in the crop rotation, the amount of phosphorous carried over from previous livestock waste land application, and soil tests for phosphorus. Proposed section 502.625(g). The realistic crop yield goal helps the CAFO determine how much phosphorus is needed by each crop in the planned rotation. The CAFO also needs to know the realistic crop yield goal to calculate how much phosphorus will be carried over for future years when doing multi-year phosphorus application. The amount of phosphorus in the livestock waste affects how much waste is actually applied to the field to achieve the realistic crop yield goal. Soil tests are important for phosphorus based application rates because the concentrations of phosphorous in the soil will dictate whether land application is permissible, and whether it is must be based on a single-year, or multi-year application rate. Proposed section 502.615(c)-(d). Finally, proposed subsection 502.625(g)(6) requires that the phosphorus based application be consistent with nitrogen-based or phosphorus-based application restrictions found in proposed section 502.615(c)-(d); *supra* pp.65-66.

A CAFO must also calculate the annual volume of livestock waste. Proposed section 522.625(b). The annual volume of livestock waste and the application rate are necessary to determine the amount of land required for application of livestock waste. The volume is determined by multiplying the maximum number of animals the facility can hold by the annual amount of waste generated by each animal. Proposed section 502.625(b); Attachment A, TSD 36.

g. Protocols for land application

Proper livestock waste application reduces the release of nutrients and pathogens to the environment. Attachment A, TSD 26. “The land application of livestock waste must be conducted in accordance with well established best management practices to minimize surface and groundwater contamination.” *Id.* The Agency proposes protocols for the proper land application of livestock waste in proposed section 502.620.

Most of the protocols are prohibitions on land application during specified times, weather conditions or physical conditions. First, livestock waste may not be applied to waters of the United States, and shall not cause runoff to waters of state during dry weather. Proposed section 502.620(a). To prevent runoff during dry weather, livestock waste is prohibited from being applied to soil that is saturated or that has pooled water. *Id.* Likewise, livestock waste shall not be land applied so as to cause a discharge of livestock waste during dry weather through a subsurface drain. Proposed section 502.620(b).

Next, land application of livestock waste is prohibited if it is raining, snowing or sleeting, and runoff of the waste will result. Proposed section 502.620(c). Similarly, waste cannot be land applied at a rate that exceeds the infiltration rate of the soil. Proposed section 502.620(l). This prevents waste from ponding on the surface or running off. Increased slope of the field will also increase the likelihood that the waste will run off; therefore, the Agency proposes prohibiting land application on fields where the slopes are greater than 15%. Proposed section 502.620(g); Attachment A, TSD 31.

The Agency proposes that CAFOs use the RUSLE2 to determine how much soil could be lost from its fields. Proposed section 502.620(e); Attachment A, TSD 32-33. Knowing the amount of soil loss helps CAFOs develop appropriate site specific conservation practices to

control runoff, a required element of the NMP under proposed section 502.510(b)(8). Attachment A, TSD 33. If the field's slope is greater than 5% and the yearly average soil loss is greater than 5 tons per acre per year or Erosion Factor T<sup>56</sup> (whichever is less), surface land application may not be used. Proposed section 502.620(f). Instead, land application on these fields is permissible only if the waste is injected or incorporated within 24 hours. *Id.*

Liquid waste application poses threats to groundwater when there is insufficient top soil. Attachment A, TSD 31-32. Liquid passes quickly through fractured bedrock, sand, and gravel, reaching groundwater without natural filtration that removes many contaminants. *Id.* To reduce potential contamination to groundwater, the Agency's proposal prohibits liquid waste application when there is less than 10 inches of soil covering fractured bedrock, sand or gravel, or to bedrock outcrops. Proposed section 502.620(h)-(i). When there is less than 20 inches of unconsolidated material over bedrock, the Agency proposes prohibiting applying waste at greater than 50% of the agronomic nitrogen rate. Proposed section 502.620(j); Attachment A, TSD 34-35. Similarly, when the soil surface is less than 2 feet from the seasonal high water table, land application is restricted to no greater than 50% of the agronomic rate. Proposed section 502.620(i); Attachment A, TSD 27-28.

Finally, the Agency's proposal includes a prohibition on surface land application when 0.5 or more inches of precipitation in a 24 hour period is forecast. Proposed section 502.620(d). Attachment A, TSD 27-28. Land application cannot occur during the 24 hours before the forecast. Proposed section 502.620(d) provides the CAFO with two internet based tools

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<sup>56</sup> The Agency proposes defining Erosion Factor T as follows: "An estimate of the maximum average annual rate of soil erosion by water that can occur without affecting crop productivity over a sustained period. The rate is tons per acre per year. The erosion factor T is provided by the United States Department of Agriculture Natural Resources Conservation Service soils surveys." Proposed section 501.244.



developed by the National Weather Service<sup>57</sup> for determining the forecast. The proposed rule requires that the CAFO check the forecast before surface land applying to ensure that 0.5 or more inches rain is not forecast within the next 24 hours. The CAFO must keep a record of the forecasts.

#### **h. Winter Protocols**

The Illinois EPA's proposal largely restricts but does not completely prohibit land application on frozen, ice covered or snow covered ground. Injection<sup>58</sup> and incorporation<sup>59</sup> are the preferred methods on frozen ground to the extent the soil conditions and equipment capabilities allow. Attachment A, TSD 39-40. When injection and incorporation are not possible because the ground is frozen, ice covered or snow covered, surface land application<sup>60</sup> is permissible in very limited circumstances; the Agency proposes limiting surface application because it creates a high risk of runoff to waters of the United States, and should be avoided unless no practical alternative exists. Proposed section 502.630(a)(1)(A); Attachment A, TSD 39. A CAFO may not surface apply when the waste can be injected or incorporated. Proposed section 502.630(a)(1)(B). Additionally, to eliminate the need to land apply in the winter, the Agency proposes requiring each CAFO take steps to provide 120 days of storage on December 1 of each year. Proposed section 502.630(a)(1)(C); Attachment A, TSD 39-40. If the CAFO has taken steps to provide 120 days of storage, but the CAFO does not have 120 days of storage on December 1, the CAFO must notify the Agency that it does not have adequate storage. Proposed section 502.630(a)(1)(D)-(E). A CAFO which has notified the Agency of inadequate storage in

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<sup>57</sup> See, National Weather Service Meteorological Development Lab Current Model Output Statistics Forecast Products at <http://www.nws.noaa.gov/mdl/forecast/graphics/MAV/> and National Weather Service Meteorological Development Lab Forecast Products (Bulletin Form) at <http://www.nws.noaa.gov/mdl/synop/products/bullform.mex.htm>

<sup>58</sup> Injection is defined in the Agency's proposed rule, section 501.263.

<sup>59</sup> Incorporation is defined in the Agency's proposed rule, section 501.261.

<sup>60</sup> Surface land application is defined in the Agency's proposed rule, section 501.373.

writing on December 1 may surface apply without incorporating or injecting only when the storage structure will overflow without winter application. Proposed section 502.630(a)(1)(F).

In determining the volume of storage for 120 days, the CAFO must consider direct precipitation, runoff, manure, wash water and process wastewater generated for the period of December 1 to April 1. Proposed section 502.630(a)(2). In making its calculations, the CAFO must allow a freeboard of two feet, and must consider runoff under frozen ground conditions. Proposed section 502.630(a)(2)(A), (E). The calculation for direct precipitation should be based on the normal precipitation for this period. If the facilities are exposed to direct precipitation, they must consider large storm event volumes.<sup>61</sup> Proposed subsection 502.630(a)(2)(C) provides two sources that the CAFO may use to determine normal precipitation.<sup>62</sup> The CAFO must keep records of the sources and corresponding precipitation values used in making the 120-day calculation. Proposed section 502.630(a)(2)(D).

When winter surface application is permissible, the CAFO must follow a winter application plan containing the requirements in proposed section 502.630(b). While these winter protocols include a prohibition on discharges, they also include a monitoring and reporting requirement if a discharge does occur. Proposed section 502.630(b)(2),(6)-(7). After surface applying, the CAFO must visually monitor the field for runoff. If the air temperature is 32 degrees F or greater, the CAFO must monitor snow and ice covered fields once each day until all the snow and ice have melted. Proposed section 502.630(b)(6). If the CAFO owner or operator learns that livestock waste is running off the field, the owner or operator must make a telephone

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<sup>61</sup> Proposed section 502.630 requires that facilities that are not new source swine, poultry or veal CAFOs must consider the 25-year, 24 hour storm event, while new source swine, poultry or veal CAFOs must consider the storm event volume determined under subpart H. The 25-year, 24 hour storm event definition requires use of a web based NOAA tool called NOAA Atlas 14-Precipitation Frequency Atlas of the United States, Volume 2, Version 3.0 (2004) found at [http://hdsc.nws.noaa.gov/hdsc/pfds/orb/il\\_pfds.html](http://hdsc.nws.noaa.gov/hdsc/pfds/orb/il_pfds.html).

<sup>62</sup> The first source is a web-based tool from the Illinois State Water Survey found at <http://www.isws.illinois.edu/atmos/statecli/Summary/Illinois.htm>. The second source is an National Weather Service tool called U.S Climate Normals found at <http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl>.

report to the Illinois Emergency Management Agency and a written report to the Agency within 5 days. Proposed section 502.630(b)(7).

To reduce the possibility of runoff, proposed section 502.630(b) contains timing restrictions as well as setbacks. Winter surface application cannot occur within 1/4 of a mile of a non-farm residence. Proposed section 502.630(b)(1); Attachment A, TSD 40. The timing restrictions vary for frozen ground and ice and snow covered ground. If surface applying livestock waste to frozen ground, the application is prohibited in the 24 hour period before a forecast of .25 inches or more of precipitation. Proposed section 502.630(b)(3). If surface applying to ice or snow covered ground, the application is prohibited in the 24 hours preceding a forecast of .1 inches or more precipitation. Proposed section 502.630(b)(4). The proposed rule provides two sources for determining the forecast.<sup>63</sup> Proposed section 502.630(b)(3)(A)-(B); 502.630(b)(4)(A)-(B); Attachment A, TSD 41. The final timing restriction is based on temperature: if the predicted high temperature is above freezing on the day of or any of the seven days following the planned application to ice or snow covered land, surface land application is prohibited. The CAFO must keep records that demonstrate the CAFO has complied with these timing restrictions. Proposed section 502.630(b)(3)-(5); Attachment A, TSD 42-43.

Finally, to further reduce the likelihood of runoff during the winter months, the Agency proposes restricting the fields that can be used for surface winter application. Proposed section 502.630(c); Attachment A, TSD 43-46. The Agency intends to limit fields for winter application to those fields with appropriate erosion controls, buffers, slopes and setbacks. Proposed section 502.630(c)(1); Attachment A, TSD 45. If the slope is greater than 5 percent, the field cannot be used for land application in the winter. Proposed section 502.630(c)(3). The Agency proposes

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<sup>63</sup> These sources are the same NWS internet based tools described *supra* p. 71, FN 57.

tripling the applicable setback requirements in proposed section 502.645 and 502.615 if the slope of the field is between 2 and 5 percent. Proposed section 502.630(c)(5). For slopes of less than 2 percent, the applicable setbacks are doubled. Proposed section 502.630(c)(6). The Agency does not intend the tripling and doubling of setbacks to apply to the one-fourth mile set back from residences. Proposed section 502.630(c)(5)-(6); Attachment A, TSD 46.

Adequate runoff control practices must be in place before the CAFO can surface apply in the winter. Attachment A, TSD 44-45. The Agency's proposal includes a non-comprehensive list of such practices: vegetative fence rows, contour farming, terracing, catchment basins, and buffer areas that intercept surface runoff. Proposed section 502.630(c)(1). Specifically, there must be a 200 foot vegetative, crop stubble or crop residue buffer between the field and any down gradient surface waters, conduits, waterways, open tile line intake structures, sinkholes, and agricultural wellheads. Proposed section 502.630(c)(2); Attachment A, TSD 45. Additionally, if the field's soil loss is greater than erosion factor T, the field cannot be used for surface winter application. Proposed section 502.630(c)(4). Similarly, the field cannot be used for land application during winter if the soil phosphorous concentration is greater than 300 pounds per acre. *Id*; Attachment A, TSD 45.

## **8. Nutrient Management Plan**

Each CAFO permit must contain a provision requiring the CAFO to implement an NMP by the date the permit is issued. Proposed section 502.510(a). This NMP must contain the BMPs that minimize phosphorus and nitrogen transport from the field to surface water in compliance with the Agency's technical standards. *Id*; See 40 C.F.R. §412.4(c)(2). Illinois EPA's proposal, subpart E, contains both federal and state requirements pertaining to NMPs. This proposed subpart is divided into five sections—one section describing the scope, three

sections describing the elements of the NMP, and one section describing how to change the NMP.

Proposed section 502.500 contains the scope of the NMP requirement: all permitted CAFOs must develop a NMP that identifies and describes the practices that the CAFO will implement to assure compliance with the discharge limitations listed in subparts F, G and H. Like the federal rule, this includes CAFOs which do not land apply livestock waste. In addition to permitted CAFOs, some portions of the NMP rules apply to unpermitted large CAFOs claiming the agricultural stormwater exemption—namely the nutrient management practices intended to minimize nitrogen and phosphorous runoff found in proposed section 502.510(b).

Proposed section 502.505 contains the information necessary in each NMP. While this section is not specifically included in the federal rule, the Agency proposes including this information to help reduce confusion when formulating an NMP, as NMPs are often complex. The Agency intends this section to be a guide for CAFOs when they are gathering information for and compiling their NMPs. Furthermore, the information required by this section is necessary for the CAFO and the Agency to determine whether the practices described in the proposed NMP will minimize nutrient transport to waters of the United States. Moreover, the NMP must include background information about the CAFO, including the contact information for the owner and manager of the CAFO. Proposed section 502.505(a). The Agency also proposes requiring the location and contact information for the production area, as this may differ from the owner and manager's information. Proposed sections 502.505(b) and (c).

The Agency also proposes including, as required in the NMP, the identity of the person who developed the plan, and whether this person is a certified planner. This information is also

required under the federal rule and the Agency's proposal in section 502.325 to be submitted as a part of the CAFO's annual report. *Supra* pp. 50-51.

In addition to contact information, the NMP should include background information about the types of storage facilities within the production area, and the types, sizes and maximum number of animals. Proposed section 502.505(e) and (f). For land application portions of the NMP, it must include aerial photos or maps of land application fields that show setbacks and areas where livestock waste cannot be land applied. These include residences, businesses, parks, streams, wells, waterways, ponds, rivers, drainage ditches, and subsurface drainage systems. The map should also indicate the field's slope, buffers and whether the fields are in a 10-year flood plain. Proposed section 502.505(g).

CAFOs may produce more livestock waste than can be properly applied to the fields owned by the CAFO. Therefore, many CAFOs will spread livestock waste on fields belonging to another person. The CAFO must obtain a statement of consent from the owner of the land where the livestock will be applied. A copy of this statement must be included in the NMP. Proposed section 502.505(h); Attachment A, TSD 15.

Information which allows the Agency to evaluate proposed application rates (or methodologies for calculating application rates) in the NMP must also be included in the NMP. Proposed section 502.505(i)-(o); Attachment A, TSD 17-18 Therefore, the NMP must include information on crop rotation schedules, estimated nutrient values of the livestock waste, and realistic crop yield goals as determined pursuant to proposed section 502.625(e) and (f). Proposed section 502.505(i), (j) and (k). Furthermore, the application methods, listing of available fields and amounts of livestock waste to be applied to each field, must be included in the NMP. Proposed section 502.505(l) and (o).

Soil phosphorus test results must be included in the NMP. Proposed section 502.505(m). The NMP must also include the amount of phosphorus in the livestock waste, an estimate of the amount of livestock waste produced each year, the phosphorus needs of the crops, and the maximum application rate based on phosphorous as established by proposed section 502.625(g).

Similarly, the NMP must contain the calculations that will enable the CAFO to determine the maximum application rate based on nitrogen. The factors in determining the proper application rate based on nitrogen include calculations of the volume of livestock waste to be land applied, all nitrogen lost during storage and application, the amount of nitrogen available for application, the amount of plant available nitrogen, the crop's nitrogen needs, nitrogen credits, the land area required for application, and the application rate based on nitrogen. Proposed section 502.505(n); Attachment A, TSD 16-18.

**a. NMP Requirements**

In addition to the checklist approach in proposed section 502.505, Illinois EPA's proposal sets forth the objectives the NMP must achieve in proposed section 502.510(b). These objectives include the federal NMP requirements in 40 C.F.R. §122.42(e)(1). Proposed section 502.510(b)(3)-(10),(15). All unpermitted large CAFOs seeking to claim that a discharge from its land application area is an agricultural stormwater discharge must meet the NMP requirements in proposed section 502.510(b).

Under these federal requirements, a CAFO's NMP must demonstrate that the production area has adequate storage, proper procedures to manage dead animals, proper chemical and contaminant disposal methods, and diverts clean water from the production area. Proposed section 502.510(b)(3), (4), (5) and (7); Attachment A, TSD 5, 9-11; *see* 40 C.F.R. §122.42(e)(1)(i) – (iii), (v). The NMP must show how the CAFO will prevent animals from

coming into contact with waters of the United States. Proposed section 502.510(b)(6); Attachment A, TSD 10; *see* 40 C.F.R. §122.42(e)(1)(iv). Additionally, the Illinois EPA proposes that the NMP have a spill prevention and control plan, as well as alternative storage provisions and schedules when land application of livestock waste is not possible due to soil and weather conditions. Proposed section 502.510(b)(14), (16); Attachment A, TSD 13-14. The Agency intends that the spill prevention and control plan address spills wherever they might occur, including the production area and the land application area. Attachment A, TSD 13.

The requirements of the NMP pertaining to the land application area are found in proposed section 502.510(b)(8) to (14). Like the federal rule, the Agency requires that the NMP have the site specific conservation practices that will be implemented to control runoff and protocols for livestock waste application that ensure appropriate agricultural utilization of the nutrients which in turn minimizes nutrient transport from the field. Proposed section 502.510(b)(8) and (10); *See* 40 C.F.R. §122.42(e)(1)(vi). Additionally, Illinois EPA's proposal contains the federal requirement that each CAFO identify protocols to be used in testing the livestock waste and the soils on the field. Proposed section 502.510(b)(9); *See* 40 C.F.R. §122.42(e)(1)(vii). All livestock waste must be tested yearly, and the soil must be tested twice during the term of the permit. Proposed section 502.510(b)(9); *See* 40 C.F.R. § 412.2(c)(3); *supra* p. 62; Attachment A, TSD 19, 51-54.

In addition to the federal NMP requirements for land application, the Agency proposes adding five additional NMP requirements to ensure compliance with state technical standards and effluent limitations. First, under proposed section 502.510(b)(1), the NMP must demonstrate the NMP application rates for nitrogen and phosphorus. Second, the NMP must show that the CAFO has adequate land area for application of its livestock waste. Proposed section



502.510(b)(2). Attachment A, TSD 5. Third, the NMP must contain the required land application setback from waters and residences found in proposed section 502.645. Proposed section 502.510(b)(11). Fourth, the NMP must have a winter application plan that meets the Agency's proposed technical standards for winter application in proposed section 502.630. Proposed section 502.510(b)(12). Fifth, the NMP must include inspection, monitoring, management and repair of any subsurface drainage system in the fields used for land application. Proposed section 502.510(b)(13). Many of the fields in Illinois contain these subsurface drainage systems which can fail. Attachment A, TSD 20.

Under proposed section 502.510(b)(15), each NMP must include a record keeping requirement that will document that the above described provisions are being implemented. The Agency's proposal also includes this recordkeeping requirement (through a cross reference) in proposed section 502.320. These records must be kept for five years.

**b. NMP Terms**

The Agency proposes adopting the same standard as contained in the federal rule for determining the terms of the NMP: "The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by the Agency to be necessary to meet the requirements of sections 502.505 and 502.510." Proposed section 502.515(a); *See* 40 C.F.R. §122.42(e)(5). This standard does not require that all provisions in section 502.505 and 502.510 are terms. Instead, the terms are what the Agency determines are necessary to meet the requirements of the NMP. Therefore, under the Illinois EPA's proposal, the information listed in proposed section 502.505 is required, but is not necessarily a term of the NMP.

Proposed section 502.515 incorporates the same terms for the NMP with respect to land application as set forth in the federal rule. The language in 502.515 is almost completely taken from the federal rule, 40 C.F.R. §122.42(e)(5). Specifically, Illinois EPA proposes that the terms include the fields for land application, the properly developed rates of application, and land application timing restrictions. Proposed section 502.515(b).

Proposed subsection 502.515(c) states the federal requirement that the terms of the NMP must address rates of application as determined by the narrative approach or the linear approach. The Agency proposes setting forth the linear approach, without modification, in section 502.515(d), and the narrative approach, without modification, in proposed section 502.515(e). *See* 40 C.F.R. §122.42(e)(5)(i); *supra* pp. 24-27.

**c. Changes to the NMP**

The Illinois EPA's proposal contains the same restrictions on changing the NMP as found in the federal rule. Proposed section 502.520; *See* 40 C.F.R. §122.42(e)(6); *supra* p.28.<sup>64</sup> A permitted CAFO will be able to make changes to non-term portions of the NMP without public notification. Proposed section 502.520(b)(1). However, if the proposed change is to a term of the NMP, public notification is necessary. Proposed section 502.520(b)(2). If the Agency considers the proposed change substantial, the public is provided an opportunity to review and comment on the change. Proposed section 502.520(b)(3). For substantial changes, the Agency must follow the same process for submitting public comments, hearing requests, holding hearings, and responding to comments as for draft general permits as explained in proposed section 502.310(d) through (f). A change is substantial if, like under the federal rule, it is likely to increase the risk of nutrient transport to waters of the United States. Proposed section

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<sup>64</sup> Like the federal rule, calculation of the maximum amount of livestock waste to be land applied required under proposed section 502.515(d)(3) and 502.515(e)(3) are not subject to section 502.520, Changes to the Nutrient Management Plan.

502.520(d)(4). In particular, adding a new field or new crop under either approach is a substantial change. Proposed section 502.520(d)(1) and (3). Under the linear approach, any change to the maximum application rate is a substantial change. Proposed section 502.520(d)(2). Similarly, under the narrative approach, changes to the maximum amount of nitrogen and phosphorous derived from all sources for each crop are substantial. *Id.*

## **VI. TECHNICAL FEASIBILITY AND ECONOMIC JUSTIFICATION**

Section 27(a) of the Act requires the Board to consider the technical feasibility and economic reasonableness of all substantive rulemaking proposals. The proposed regulations do not require the installation of any particular technology, but the effluent limitations and proposed state technical standards do place requirements on the CAFO production and land application areas that must be evaluated for technical feasibility and economic reasonableness.

### **A. Technical Feasibility - Production Area**

The effluent limitations for the CAFO production area can be summarized as requiring the CAFO to design, operate and maintain its facility such that a discharge will not occur in dry weather and a discharge will only occur in storm events larger than a 25-year, 24-hour event. An exception to this would be swine, poultry and veal facilities that are classified as new sources under the 2008 rule, which must achieve a no discharge effluent limitation.

In general, the production area effluent limitations do not require installation of a particular technology or use of particular equipment to comply. One exception is the requirement to install a depth marker in lagoons that are exposed to the elements which is already commonly done at many CAFOs. The regulations do require CAFOs to manage their livestock waste. This can be achieved through design of the facility to manage and store sufficient quantities of livestock waste, or it can be achieved through the number of animals

housed at one time and the length of time each animal is housed. The federal CAFO regulations and Illinois EPA's proposal attempts to maintain the greatest possible degree of flexibility on the part of the producer to select technologies, methods and practices that work best at their individual facility and also minimize transport of pollutants to waters of the United States. These requirements are technically feasible for all size facilities, including medium and designated CAFOs. Smaller facilities have even more flexibility than larger facilities to adjust either the quantity of waste produced or their ability to store and manage additional waste.

The regulations require all CAFOs subject to section 502.610(l) to have 180 days of storage. Again, this amount of storage can be reached through design of sufficient storage or through housing the appropriate number of animals. Because the LMFA currently requires 150 days of storage for non-lagoon structures and 270 days of storage for lagoons at those facilities regulated by the Illinois Department of Agriculture, the Agency has concluded that this requirement will be technically feasible for all CAFOs in Illinois.

#### **B. Technical Feasibility - Land Application Area**

There are three major categories of land application methods: surface (broadcast) application, incorporation (surface application where the waste is mixed with the soil) and injection. The following provides a brief explanation of the types of equipment used by producers to land apply livestock waste in each one of these three methods.

Irrigation equipment, tank wagons, manure spreaders and other common equipment are used to surface apply livestock waste without incorporation. Irrigation equipment commonly used includes center pivot irrigation units and traveling guns that spray the manure into the air. This irrigation equipment is many times connected to the manure storage structures and the manure is directly pumped through pipes or hoses to the irrigation equipment. Tank wagons are

commonly used to spread liquid livestock waste using a splash plate or nozzles to apply the livestock waste onto the surface of the ground. Solid manure is commonly applied by manure spreaders developed to handle waste in a solid form by mechanically spreading manure through the air onto the ground. Tank wagons and manure spreaders are commonly used to haul the livestock waste from the livestock waste storage structure to the land application site.

Chisel plows, discs, field cultivators, and other common soil tillage equipment are used to incorporate livestock waste into the soil. The livestock waste may be applied to the surface of the ground with the same equipment that provides the soil tillage, or the livestock waste may be applied with equipment (i.e. tank wagons or manure spreaders) that is followed by a separate pass of soil tillage equipment that incorporates the livestock waste into the soil.

Manure injection equipment is commonly used to inject liquid livestock waste into the soil. This equipment uses steel knives, disc blades, tines or sweeps to slice the soil. The livestock waste is placed directly in the open slot in the soil behind the steel knives, disc blades, tines or sweeps. Disc blades or other equipment on the livestock waste injection equipment then closes the slot over the injected liquid livestock waste. Waste is commonly injected 3-7 inches deep into the soil. Livestock waste can be pumped from storage through pipes and hoses to the injection equipment. Tank wagons with injection equipment are also used to inject livestock waste into the ground.

The equipment and technology used in the land application of livestock waste is widely available and in use today throughout the agricultural regions of Illinois. The proposed regulations do not mandate the use of any particular land application technology or equipment, but do attempt to provide some additional flexibility to producers that use technologies which are intended to help limit the transport of pollutants. Under certain conditions, the proposed

regulations provide additional flexibility for producers that use injection and incorporation over broadcast surface application without incorporation.

The effluent limitations for the land application consist of BMPs that are designed to limit the transport of pollutants to waters of the United States. *Supra* pp.59-75. The BMPs required by the proposal include choices between various alternatives to allow flexibility to the CAFO. These BMPs are in common use in Illinois today and are technically feasible when the CAFO owner or operator plans ahead to adjust the land application of livestock waste to meet the requirements. The information submitted in this Statement of Reasons and accompanying TSD should demonstrate to the Board that the proposed BMPs are already available and in common use in Illinois today and are therefore technically feasible. In addition, for any producer that finds difficulty implementing any particular BMP there is the opportunity to select an alternative or demonstrate to the Agency that an equivalent alternative is acceptable.

**C. Economic Reasonableness - Production Area and Land Application Area**

Because the proposed regulation does not require installation of any particular production area technology, it is difficult to quantify the economic costs associated with compliance with the proposed section for Illinois CAFOs. Many CAFOs in Illinois currently implement these requirements either as a result of similar requirements under the LMFA or based on the existing requirements in the Illinois CAFO general permit. If a CAFO is required to build additional storage capacity, dispose of stored livestock waste more frequently, or house fewer animals to reduce livestock waste as a result of these regulations, there will be an economic impact on those facilities. Based on the limited information available, the Agency believes these additional costs are economically reasonable and that they are sufficiently balanced by the economic benefits to the public and the environment.

Similarly, the BMPs required by the proposed rule for the land application area are already used as good agricultural management practices at many, if not most, of the better performing Illinois CAFOs already under the LMFA, NPDES general permit, or United States Department of Agriculture conservation programs. For some facilities, there is likely to be no additional cost to comply with these rules outside of the small administrative cost related to submittal of the appropriate paperwork to the Agency to demonstrate compliance. With regard to the economic reasonableness of the land application area requirements, while the proposed rule provides great flexibility to determine how best to comply, there are certain specific requirements of the proposed rule that are likely to increase costs for certain CAFOs because the Agency has prohibited a field or portions of a field from use for land application of livestock waste because of the high risk that application would result in transport of pollutants from the field to waters of the United States. If a producer has to abandon certain fields or parts of fields (e.g., to comply with setback requirements) or apply to those fields less frequently, there will be an economic cost of the proposed land application requirements to the producer. Based on the limited information available from USEPA, the Agency believes these additional costs are economically reasonable and that they are sufficiently balanced by the economic benefits to the public and the environment.

Because of the flexibility provided to the owner or operator to choose how to comply with both the production area and land application area requirements, it is very difficult to reliably estimate the cost of the proposed rules. USEPA attempted to study and highlight the costs of the 2003 and 2008 CAFO regulations. The cost discussion in the 2003 rule preamble is found at 68 Fed. Reg. 7242–7250. The discussion of economic impacts of the 2008 rule preamble is found at 73 Fed. Reg. 70468-70470.

USEPA's 2003 rule found a total societal cost of that regulation to be \$335 million annually in 2001 dollars. However, this includes the cost to the regulated community and the cost to delegated states (including Illinois) to implement the rule. For regulated facilities, USEPA estimated a total cost of \$283 million per year for large CAFOs, \$39 million per year for medium CAFOs and \$4 million per year for designated CAFOs for a total of \$326 million. These figures include the assumption that approximately 3 percent of CAFOs may be vulnerable to facility closure as a result of the 2003 regulations. The federal preamble to the 2003 rule, Table 8.1.—Annual Pre-Tax Cost of the Rule, \$2001, provides a breakdown of USEPA's estimated costs by sector. *See* 68 Fed. Reg. 7243–7244. The largest costs are attributable to the dairy sector at \$151.1 million. The veal sector is estimated to have no cost associated with the new rule. Due to the flexibilities in the rule, the costs to any individual facility may vary. However, using USEPA's totals from the 2003 rule, it is estimated that the federal CAFO rule will have an average annual cost of \$21,765 per CAFO. For large CAFOs, the cost would be closer to \$26,912 per year and for medium CAFOs the average estimated cost would be \$8,783 per year. For swine CAFOs, USEPA estimated the annual costs to be relatively low at \$6,346 for large CAFOs and \$6,397 for medium CAFOs. *See* Attachment J. "Cost Methodology for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations" (USEPA December 2002).

In the 2008 rule, USEPA determined that no changes were being made to technical requirements and the only cost changes between the 2003 and 2008 rules were the result of changed administrative costs. With regard to the administrative costs for the producers, USEPA concluded that reduced administrative costs as a result of fewer CAFOs seeking permit coverage, subtracted from increased administrative costs for additional NMP requirements and costs for



demonstrating compliance with the agricultural stormwater exemption would result in a very small decrease in administrative costs under the 2008 rule. No analysis has been performed by USEPA of the economic impact of the *Pork Producers* decision, but it would be logical to conclude that decision would further decrease administrative costs with no corresponding increase to NMP costs. In making these cost calculations for the 2008 rule, USEPA assumed that 25 percent fewer CAFOs would seek permit coverage following *Waterkeeper*. See 73 Fed. Reg. 70469. It seems that following *Pork Producers* and based on Illinois EPA's recent experience with CAFO permitting, fewer CAFOs will need to apply for NPDES permits in Illinois than was assumed in USEPA's 2003 or 2008 economic analysis.

In developing the 2003 CAFO rule, USEPA also attempted to quantify the economic benefit of the 2003 regulations where it was possible to do so. See 68 Fed. Reg. 7234–7235. Though all economic benefits of the federal rule could not be easily quantified, they did arrive at a range of between \$204 million and \$355 million per year (in 2001 dollars) of economic benefits from the pollutant reductions attributable to large CAFOs. *Id.* Although some requirements applicable to large CAFOs changed in the 2008 rule, USEPA did not find a change to the economic benefit of the 2008 rule from 2003 rule. The largest category of economic benefits was found to be “recreational and non-use benefits from improved water quality in freshwater rivers, streams, and lakes” at a benefit of \$166.2 million to \$298.6 million. *Id.*

Given the information provided by USEPA in development of the federal CAFO rule, Illinois EPA has concluded that the costs to most CAFOs associated with compliance with the proposed regulation will be economically reasonable. In addition, Illinois EPA has concluded that both the land application area and production area requirements of the proposed rule are technically feasible and rely on widely available existing equipment, methods and practices.

## VII. AFFECTED FACILITIES AND OUTREACH

### A. Affected Facilities

In general, the proposed regulations are intended to cover permitted CAFOs. Some provisions of the proposed rule, however, impact all CAFOs meeting the definition of a large CAFO. Additionally, the proposed changes to Part 501, are applicable to all livestock management facilities and livestock waste handling facilities regardless of whether they are a CAFO or whether they have a permit from Illinois EPA. The changes to Part 501 are primarily non-substantive, clean-up amendments to create consistency between Parts 501, 502 and the Act.

It is difficult to give an accurate number of CAFOs in Illinois. No comprehensive state or national inventory of Illinois CAFOs exists at this time. Following the adoption of the 2003 CAFO rule by USEPA, the Agency estimated that Illinois may have had approximately 500 large CAFOs and 2,700 medium CAFOs. With the change brought about by the *Waterkeeper* and *Pork Producers* decisions, it is impossible to specify how many of these would now be required to obtain an NPDES permit because a site-specific evaluation is required to determine whether the CAFO is discharging. Illinois EPA is in the process of developing a CAFO inventory. Currently, the Agency is attempting to construct the inventory from an Illinois Department of Public Health database of over 800 dairy operations which are inspected by that Agency and a list of 1,400 permits that have been issued by the Illinois Department of Agriculture under the LMFA since 1996. See Attachment K and Attachment L, respectively.

The existing CAFO general permit (ILA01) was issued on October 20, 2009. As of the date of this filing, Illinois has approximately 35 CAFOs covered by that General Permit or proposed to be covered by that permit.

## B. Outreach

The Agency conducted extensive outreach activities in developing this proposal. In late 2004, the Agency initially circulated a draft of proposed regulations to a list of over thirty stakeholders that consisted primarily of interested parties from the environmental and agriculture communities. See Attachment M, 2004 Stakeholder Mailing List. Shortly after receiving written comments from these stakeholders in early 2005, the *Waterkeeper* case was decided by the 2<sup>nd</sup> Circuit Court of Appeals, and the Agency suspended its rulemaking activities until USEPA finalized what would become the 2008 rule.

During the process of updating the Agency's regulations to conform to the 2003 and 2008 rule, the Agency determined that extensive technical decisions needed to be made, and therefore, a more stakeholder involvement would assist in the decision-making process. As a result, a smaller stakeholder advisory workgroup (Stakeholder Workgroup) convened allowing representatives from the various affected entities to contribute to the final work product. In particular, that group attempted to draft language for winter application provisions in the proposed section 502.630 and the requirements for phosphorus application rates and limitations found in the proposed section 502.615.

Stakeholder Workgroup first met on December 22, 2009. At least five additional meetings were held in 2010. Sign-in sheets for these meetings are provided in Attachment N. On October 15, 2010, the Agency distributed a comprehensive draft proposal to the stakeholders and requested comments by November 10, 2010. The Agency received a joint comment from the following groups: Illinois Beef Association, Illinois Farm Bureau, University of Illinois Extension, Illinois Milk Producers Association and Illinois Pork Producer Association. Comments on behalf of the environmental stakeholders were also received individually from

Prairie Rivers Network, Illinois Citizens for Clean Air and Water, Mr. Arnold Leder, and Mr. Jim Francis.

A second draft proposal was submitted to USEPA on December 1, 2010, and comments were received from USEPA on January 14, 2011. After reviewing comments from the stakeholders and USEPA, the Agency held an additional Stakeholder Workgroup meeting on March 15, 2011 to discuss possible changes necessary to address USEPA's comments. On May 18, 2011, the Agency circulated to USEPA and the stakeholders a revised draft responding to their comments.

During the summer of 2011, the Agency held meetings with USEPA to resolve USEPA's remaining comments. The Agency also met separately with producer groups and environmental groups to attempt to resolve any remaining issues with the draft regulations. While consensus could not be achieved on all issues, this proposal to the Board is the culmination of those efforts.

#### **VIII. SYNOPSIS OF TESTIMONY**

The Illinois EPA anticipates presenting three witnesses during the Board's hearings on this proposal. The witnesses are Agency employees within the Division of Water Pollution Control. They are (1) Sanjay Sofat, Division Manager; (2) Bruce Yurdin, Field Operations Section Manager; and (3) Dan Heacock, Facility Evaluation Unit Manager, Permits Section. The Agency reserves the right to call additional witnesses if necessary during the course of hearings in this matter. It is also expected that the Agency will make additional staff available to answer specific questions raised by the Board or interested parties. The following is a brief summary of the topics of testimony for each of the Agency witnesses.

Sanjay Sofat manages the Division of Water Pollution Control. Management of this Division includes supervision of the Field Operations, Permitting, Compliance Assurance,

Surface Water, and Water Quality Standards Sections. Illinois EPA anticipates that Mr. Sofat will testify regarding policy considerations underlying the Illinois EPA's proposed state technical standards. Mr. Sofat is also expected to testify and respond to questions regarding the agricultural stormwater exemption, requirements applicable to unpermitted large CAFOs, the provisions requiring submittal to Illinois EPA of information required under the federal CAFO reporting rule, and the economic reasonableness of the Agency's proposal.

Bruce Yurdin manages the field staff in the Division of Water Pollution Control's seven Field Offices, five of which house CAFO inspectors. He will present testimony and answer questions related to CAFO inspections and compliance activities. Mr. Yurdin will also explain the requirements and limitations on the land application of livestock during winter, the requirements applicable to livestock waste handling facilities or livestock waste management facilities that are not CAFOs or are not required to obtain an NPDES permit, the process for CAFO designation, and the recordkeeping and annual reporting requirements in the proposed rule. His testimony will also address affected facilities.

Dan Heacock supervises the unit within the Division of Water Pollution Control Permits Section that reviews and issues permits for CAFOs and coverage under the CAFO general permit to individual CAFOs. In addition to explaining the requirements in the proposal related to permit applications and issuance, Mr. Heacock will testify to the general requirements of Illinois' state technical standards, the nutrient management plan, and their technical feasibility. He will also explain the technical standards and effluent limitations applicable to permitted CAFOs and unpermitted large CAFOs. Finally, Mr. Heacock will testify to the requirements that address when a CAFO may land apply livestock waste at the nitrogen or phosphorus application rate.

## IX. SUPPORTING DOCUMENTS

### A. Documents Relied Upon

The Illinois Administrative Procedure Act provides that all proposed rulemakings must include:

a descriptive title or other description of any published study or research report used in developing the rule, the identity of the person who performed such study, and a description of where the public may obtain a copy of any such study or research report. If the study was performed by an agency or by a person or entity that contracted with the agency for the performance of the study, the agency shall also make copies of the underlying data available to members of the public upon request if the data are not protected from disclosure under the Freedom of Information Act.

5 ILCS 100/5-40(b)(3.5). The Board's procedural rules require the same information to be included with any rulemaking proposal filed with the Board in 35 Ill. Adm. Code 102.202(e). A complete list of the published studies and other documents relied upon by the Agency in developing this proposal is provided in Attachment O, List of Documents Used in Developing the Proposal. This list includes all the references provided in the Agency's TSD as well as some additional references relied on in rule development and the Statement of Reasons. The Agency did not perform any new studies, nor did the Agency contract with any outside entities to perform any studies for the development of this rulemaking proposal. Because no studies were conducted, there is no underlying data meeting the requirements of 5 ILCS 100/5-40(b)(3.5).

### B. Incorporations by Reference and Attachments

While Attachment O provides a complete list of all documents and studies used in developing the proposal, this section of the Statement of Reasons provides a List of Documents Attached to this rulemaking proposal. This List of Documents Attached is a compilation of the key documents used by the Agency in developing this proposal that are being provided to the Board as exhibits. This list includes both the key documents that are necessary for the Board and

the public to understand the Agency’s proposal as well as the documents required to comply with section 102.202(d) of the Board’s procedural rules. That provision requires rulemaking proponents to submit “[c]opies of any material to be incorporated by reference within the proposed rule pursuant to section 5-75 of the IAPA [5 ILCS 100/5-75].” Section 5-75(a) of the APA provides:

“(a) An agency may incorporate by reference, in its rules adopted under Section 5-35, rules, regulations, standards, and guidelines of an agency of the United States or a nationally or state recognized organization or association without publishing the incorporated material in full. The reference in the agency rules must fully identify the incorporated matter by publisher address and date in order to specify how a copy of the material may be obtained and must state that the rule, regulation, standard, or guideline does not include any later amendments or editions. An agency may incorporate by reference these matters in its rules only if the agency, organization, or association originally issuing the matter makes copies readily available to the public. ...”

The current version of the Board’s Subtitle E contains a list of documents incorporated by reference at 35 Ill. Adm. Code 501.200. In this proposal, the Agency has updated the two references currently incorporated in section 501.200 with the most current editions. The Agency’s proposal also updates the name and contact information for the publisher for those documents. In addition, the Agency has added six new documents to the list of documents incorporated by reference into Subtitle E. Those eight incorporations by reference are listed below as Attachments P through W. Copies of each of these documents are included with this rulemaking proposal. The following is the list of Attachments to the Agency’s rulemaking proposal.

Attachment Letter	<b>List of Documents Attached</b>
A	Illinois EPA’s Technical Support Document (TSD)
B	Federal Register 68:29 (2003), National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal

	Feeding Operations (CAFOs): Final rule, pp. 7175-7274, February 2003
C	<i>Waterkeeper v. U.S. Environmental Protection Agency</i> , 399 F.3d 486, 490 (2 <sup>nd</sup> Cir. 2005)
D	Federal Register 73:225 (2008), Revised National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines for Concentrated Animal Feeding Operations in Response to the Waterkeeper Decision: Final rule, pp. 70418-70486, November 20, 2008
E	<i>National Pork Producers Council, et al v. United States Environmental Protection Agency</i> , 635 F.3d 738 (5 <sup>th</sup> Cir. 2011)
F	November 2008 Compiled CAFO NPDES Regulations and Effluent Limitations Guidelines and Standards
G	Federal Register 76:204 (2011), National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Reporting Rule: Proposed rule, pp. 65431-65458, October 21, 2011
H	December 22, 2008 Correspondence from Tinka Hyde, Director, Water Division, U.S. EPA, Region 5, to Marcia Willhite, Bureau of Water, Illinois EPA
I	December 8, 2011 USEPA Memorandum from James A. Hanlon, Director Office of Wastewater Management, U.S. EPA
J	"Cost Methodology for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations," December 2002, United States Environmental Protection Agency
K	Illinois Department Public Health Dairy Farm List
L	Illinois Department of Agriculture Permitted Facilities List
M	2004 Stakeholder Mailing List
N	2009 - 2011 Stakeholder Workgroup Meetings Sign In Sheets
O	List of Documents and Tools Used in Developing the Proposal
P	"Management of Manure Odors," ASAE EP379.4 (January 2007), ASABE Available from American Society of Agricultural and Biological Engineers, 2950 Niles Road, St. Joseph, MI 49085(269-429-0300), fax 269-429-3852, hq@asabe.org
Q	"Design of Anaerobic Lagoons for Animal Waste Management," ASABE EP403.4 (R2011), ASABE Available from American Society of Agricultural and Biological Engineers, 2950 Niles Road, St. Joseph, MI 49085(269-429-0300), fax 269-429-3852, hq@asabe.org
R	"Illinois Agronomy Handbook, 24 <sup>th</sup> Edition," University of Illinois, College of Agriculture, Consumer and Environmental Sciences. Urbana, IL, July



S	"Livestock Waste Facilities Handbook, Third Edition," MWPS-18. MidWest Plan Service. April 1998
T	"Manure Characteristics," Section I. Second Edition MWPS-18. MidWest Plan Service. 2004
U	"Recommended Chemical Soil Test Procedures for the North Central Region," North Central Regional Publication No.221, Missouri Agricultural Experiment Station Bulletin SB 1001 (January 1998). North Central Region-University of Missouri Soil Testing Lab, 23 Mumford Hall, University of Missouri Columbia, MO 65211
V	University of Illinois, College of Agricultural, Consumer and Environmental Sciences Office of Research (2000)- Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils; Bulletin No. 810, revised 1/15/2011 to amend Table B810
W	University of Illinois, College of Agricultural, Consumer and Environmental Sciences Office of Research (2000), Optimum Crop Productivity Ratings for Illinois Soils, Bulletin 811, revised 1/15/2011 to amend Table S2 B811
X	Livestock Facilities Management Act [510 ILCS 77]
Y	Livestock Management Facility Regulations [8 Ill. Adm. Code 900]
Z	"Effect of Liquid Swine Manure Rate, Incorporation, and Timing of Rainfall on Phosphorus Loss with Surface Runoff." Journal of Environmental Quality, 37: 125-137. Allen, B. L., and A.P. Mallarino.(2008)
AA	"Phosphorus Runoff: Effect of Tillage and Soil Phosphorus Levels." Journal of Environmental Quality, 32, 1436-1444, Daverede, I.C., A.N. Kravchenko, R.G. Hoefl, E.D. Nafziger, D.G. Bullock, J.J. Warren, and L.C. Gonzini. (2003)
BB	"Phosphorus Runoff from Incorporated and Surface-Applied Liquid Swine Manure and Phosphorus Fertilizer." Journal of Environmental Quality, 33, 1535-1544 .Daverede, I.C., A.N. Kravchenko, R.G. Hoefl, E.D. Nafziger, D.G. Bullock, J.J. Warren, and L.C. Gonzini. (2004)
CC	"Vegetative filter strips for agricultural nonpoint source pollution control," <i>Trans. ASAE</i> 32,513-519, Dillaha, T. A., Reneau, R. B., Mostaghimi, S.,and Lee, D. (1989)
DD	"Curve Number Hydrology in Water Quality Modeling, Uses, Abuses, and Future Directions." , Journal of the American Water Resources Association, Paper no. 03127, 377-388 Garen, D. C. and D.S. Moore (2005)
EE	"Meta-Analysis of Nitrogen Removal in Riparian Buffers." Journal of Environmental Quality, 36: 1172–1180, Mayer, P.M., S.K. Reynolds, M.D. McCutchen, and T.J. Canfield. (2007)
FF	"Water-quality effects of incorporating poultry litter into perennial grassland soils." Journal of Environmental Quality. 32(6):2392-2398. Pote, D.H., Kingery, W.L., Aiken, G.E., Han,

	F.X., Moore Jr, P.A., Buddington, K.K. (2003)
GG	“Phosphorus Movement in the Landscape.”, J. Prod. Agric. 6: 492-500, Sharpley, A. N., T. C. Daniel, and D. R. Edwards. (1993)
HH	“Determining Environmentally Sound Soil Phosphorus Levels”, J. Soil and Water Cons. 51(2): 160-166, Sharpley, A., T. C. Daniel, J. T. Sims and D. H. Pote. (1996)
II	“Nutrient Management – Code 590.” NRCS, Illinois, January 2002, National Resource Conservation Service (2002), United States Department of Agriculture
JJ	“Waste Utilization – Code 633 NRCS, Illinois,” January 2002, National Resource Conservation Service (2002), United States Department of Agriculture
KK	“Nutrient Management – Code 590, NRCS, NHCP,” October 2003, National Resource Conservation Service (2003), United States Department of Agriculture
LL	“National Engineering Handbook, Part 630 Hydrology, Chapter 10 Estimation of Direct Runoff from Storm Rainfall,” National Resource Conservation Service (2004), United States Department of Agriculture
MM	“Managing Manure Nutrients at Concentrated Animal Feeding Operations,” Washington D.C., 2004, United States Environmental Protection Agency (2004)
NN	“A Review of Vegetated Buffers and a Meta-analysis of Their Mitigation Efficacy in Reducing Nonpoint Source Pollution.” Journal of Environmental Quality, 39 (1): 76-84. Zhang, XY, et al. (2010)

### C. Tools Relied on by the Agency in Developing the Proposal

In addition to the eight documents incorporated by reference in section 501.200, the Agency’s rulemaking proposal relies on several sources of information that are more accurately described as “tools”. These tools are publicly available databases or software that are to be used by the CAFO owner or operator in developing a nutrient management plan or making decisions about when the risk of applying livestock waste is acceptable. A complete list of these tools relied on is provided in Attachment O. For each tool, a reference is provided that takes the user to a webpage that will allow the user to begin to input the location or other necessary site-specific information. These internet reference pages will also provide the user with access to manuals and other instructional aides for using the tools and understanding how they work or

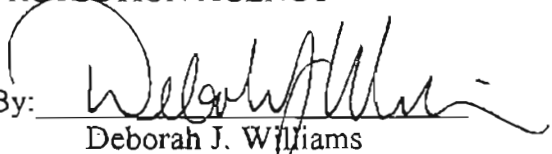
were developed. There are eight tools the Agency relies upon in this regulatory proposal. Five of the tools are used to find information and to make decisions regarding site specific weather patterns and conditions: one tool is used to determine the 25-year, 24-hour storm event, two tools are provided as options for determining normal precipitation, and two tools are provided for obtaining forecasts from the National Weather Service. The federal rule relies on two tools for the design of new swine, poultry or veal CAFOs (AWM and SPAW) which are also used in the Illinois EPA proposal. Finally, the Revised Universal Soil Loss Equation Version 2 is relied on for site specific field assessments.

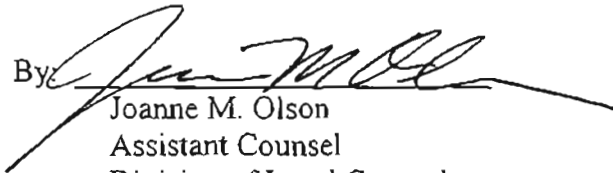
## X. CONCLUSION

WHEREFORE, for the reasons stated above, the Illinois EPA asks the Board to accept this Statement of Reasons and proceed to hearings on the above-captioned rulemaking proposal.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

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DATED: 2/29/2012

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**THIS FILING IS SUBMITTED ON RECYCLED PAPER**

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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CLERK'S OFFICE

MAR 01 2012

STATE OF ILLINOIS  
Pollution Control Board

IN THE MATTER OF: )  
)  
AGRICULTURE RELATED WATER )  
POLLUTION: PROPOSED )  
AMENDMENTS TO 35 Ill. Adm. Code )  
Parts 501, 502 and 504 )

R12- 23  
(Rulemaking- Water)

ORIGINAL

CERTIFICATE OF SERVICE

RETURN TO CLERK'S OFFICE

I, the undersigned, an attorney, state that I have served the attached REGULATORY PROPOSAL entitled "AGRICULTURE RELATED WATER POLLUTION: PROPOSED AMENDMENTS TO 35 Ill. Adm. Code Parts 501, 502 and 504," containing the Illinois EPA's Motion for Acceptance, Appearances, Motion for Waiver of Copy Requirements, Certificate of Origination, Statement of Reasons and Attachments; and Proposed Amendments, upon the following persons,

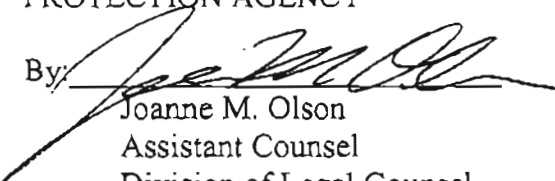
John Therriault, Assistant Clerk  
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James R. Thompson Center  
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Matthew Dunn, Chief  
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Springfield, IL 62702  
(electronic service without attachments per agreement)

except as otherwise noted above, by mailing 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 February 29, 2012.

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By:   
Joanne M. Olson  
Assistant Counsel  
Division of Legal Counsel

THIS FILING IS SUBMITTED ON RECYCLED PAPER