

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF: )  
)  
CONCENTRATED ANIMAL FEEDING ) R-2012-023  
OPERATIONS (CAFOS): PROPOSED )  
AMENDMENTS TO 35 ILL. ADM. CODE )  
501, 502 AND 504 )

**NOTICE OF ELECTRONIC FILING**

TO: *SEE ATTACHED SERVICE LIST*

PLEASE TAKE NOTICE that on January 30, 2014, on behalf of ILLINOIS PORK PRODUCERS ASSOCIATION, ILLINOIS FARM BUREAU, ILLINOIS BEEF ASSOCIATION and ILLINOIS MILK PRODUCERS ASSOCIATION, I have filed the AGRICULTURAL COALITION'S FIRST NOTICE PUBLIC COMMENT, copies of which are also herewith sent to the attached service list.

Dated: January 30, 2014

Respectfully submitted,

By: \_\_\_\_\_  
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**PROOF OF SERVICE**

I, Claire A. Manning, certify that I have served the AGRICULTURAL COALITION'S FIRST NOTICE PUBLIC COMMENT, by US Mail, first class postage prepaid, on January 30, 2014 to the following:

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**AGRICULTURAL COALITION'S FIRST NOTICE PUBLIC COMMENT**

Now comes the Agricultural Coalition ("Coalition"), comprised of THE ILLINOIS PORK PRODUCERS ASSOCIATION, THE ILLINOIS FARM BUREAU, THE ILLINOIS BEEF ASSOCIATION, AND THE ILLINOIS MILK PRODUCERS ASSOCIATION, by and through its counsel, BROWN, HAY & STEPHENS, LLP, and respectfully presents to the Illinois Pollution Control Board ("Board") the following First Notice Public Comment.

**I. INTRODUCTION**

As expressed in the Coalition's Pre-First Notice Public Comment (PC #19, filed January 16, 2013) and the Coalition's Pre-First Notice Post Hearing Responsive Comment (PC #28, filed on January 30, 2013), the Coalition welcomes the proposed rule submitted by the Illinois Environmental Protection Agency ("IEPA") and acknowledges and appreciates the time spent by the Board, including its members and staff, on this rulemaking. As previously stated, the Coalition supports an effective and practicable rule that is clear and understandable for those tasked with compliance. The Coalition further agrees with the position espoused by the IEPA, that the Illinois rules should be consistent with federal rules, and, therefore, not include requirements beyond those set forth in the federal rules. IEPA's Post Hearing Comments at p. 1 (January 16, 2013). The Coalition strongly believes that this position is consistent with

legislative intent, as directly expressed in Section 12(f) of the Illinois Environmental Protection Act (“Act”):

No permit shall be required under this subsection and under Section 39(b) of this Act for any discharge for which a permit is not required under the [federal Clean Water Act], as now or hereafter amended, and regulations pursuant thereto.

415 ILCS 5/12(f).

Regulations of discharging entities are authorized in Illinois by the Act. 415 ILCS 5/1 *et seq.* As referenced above, the Act provides that National Pollutant Discharge Elimination System (“NPDES”) permits are not required unless required by federal law. Thus, the General Assembly has expressed a legislative policy directive concerning NPDES permitting: that regulation pursuant to the Clean Water Act (“CWA”) be consistent with the federal rules developed pursuant thereto. Under federal law, NPDES permits are only required if a CAFO is discharging. *Nat'l Pork Producers Council v. U.S. E.P.A.*, 635 F.3d 738, 751 (5th Cir. 2011). They are not required merely if the CAFO has a potential to discharge. *Id.* The Coalition urges the Board to avoid expanding the scope of the rules promulgated here beyond the authority granted by the General Assembly, which limited regulation to that required by federal law.

The rulemaking before the Board is not a rule of general applicability that flows from a separate and independent Illinois legislative enactment. From that viewpoint, it is quite distinct from the Board rulemakings that took place pursuant to the Livestock Management Facilities Act (“LMFA”) and amendments thereto. 50 ILCS 77/1 *et. seq.* Here, there is no separate Illinois statute authorizing these rules. Rather, the Board’s authority is squarely placed in the context of the relevant federal rule. The task, therefore, is not to develop independent state rules based upon a separate Illinois legislative enactment, or through an isolated read of generalized Board authority under the Act, but to implement the required federal rule in the context of existing state



laws and rules. As such, the Coalition suggests that the Illinois General Assembly will expect that the state environmental regulations mirror the federal CAFO rules to the greatest extent possible.

Here, the IEPA's proposal represented its best judgment as to how to implement the federal rule in the context of the State of Illinois' current environmental program. IEPA Statement of Reasons at p. 2 (March 1, 2012) (hereinafter "Statement of Reasons"). The Coalition believes that the IEPA, as the state's delegated implementing agency pursuant to the CWA, generally achieved that goal in the rule proposal it presented to the Board. Further, the IEPA's proposed rule was already informed by significant public participation, as the IEPA explained in its 99 page Statement of Reasons which accompanied its initial filing. *Id.* at pp. 91-92. Those efforts included at least six meetings with stakeholder groups in 2009 and 2010, which culminated in several pre-filing drafts of the regulatory proposal that were provided to the stakeholder groups for comment and input. *Id.* The IEPA considered a joint comment from the Illinois Beef Association, Illinois Farm Bureau, University of Illinois Extension, Illinois Milk Producers Association, and Illinois Pork Producers Association, as well as individual comments from environmental and other stakeholders, including the Prairie Rivers Network, Illinois Citizens for Clean Air and Water, Mr. Arnold Leder, and Mr. Jim Francis. *Id.* Moreover, the IEPA presented at least two draft proposals for review to the United States Environmental Protection Agency ("USEPA") prior to filing with the Board. *Id.* Thus, public (and USEPA) input had already informed the IEPA's proposed rule by the time it was filed with the Board.

Throughout this Board rulemaking, the Coalition has largely supported the rule as proposed by the IEPA, and had made many compromises even prior to the IEPA's filing of the proposed rule with the Board. In its First Notice Opinion and Order, the Board has suggested

several substantive changes to the IEPA's proposed rule. In The Matter Of: Concentrated Animal Feeding Operations (CAFOs): Proposed Amendments to 35 Ill. Adm. Code Parts 501, 502, and 504, PCB R12-23 (November 7, 2013) (hereinafter "Order"). This comment focuses on the Board's changes that the Coalition finds objectionable, in part because the Board proposes regulatory requirements that are not required federally; thus, the Coalition believes those proposed changes exceed the authority the General Assembly granted in the context of CWA permitting that underlies this rule. Moreover, the Coalition believes that, with certain proposed changes, the Board's proposal is inconsistent with or exceeds the record evidence. In addition, the Coalition respectfully asks that the Board retreat from those changes and revert to the relevant portion of the IEPA proposal as filed with the Board, or adopt the Coalition's requested changes as indicated herein, prior to moving the rule forward to Second Notice review by the Illinois Joint Commission on Administrative Rules ("JCAR").

## **II. THE BOARD'S PROPOSED REPORTING RULE - SECTION 501.505**

In Section 501.505, the Board proposes a reporting rule that would require a non-permitted CAFO to provide information to the IEPA concerning its location and operations. Order at pp. 275-276. The Coalition objects wholeheartedly to the Board's proposed reporting rule for the following reasons, all of which are discussed in more detail herein: 1) such a rule is not required federally or authorized by existing state law, and is, thus, outside the limited scope of the Board's authority in this rulemaking; 2) IEPA does not need this information; 3) the Board's proposed Section 501.505 is not supported by the record in this proceeding; and 4) the Board's proposed Section 501.505 is unduly burdensome for Illinois farmers.

**A. The Board Does Not Have Authority to Require a Reporting Rule in this Proceeding**

The Board's proposed reporting rule is not required federally and, accordingly, is outside the limited scope of the Board's authority in this rulemaking. IEPA's Memorandum of Law Regarding Authority for An Illinois CAFO Registration Requirement, p. 6 (October 9, 2012) (hereinafter "IEPA Memo of Law"). In addition, existing Illinois law does not allow the Board to require the IEPA, by substantive Board rule, to create and administer a reporting and/or registration program for entities that are not required to be permitted. *Id.* at pp. 5-6. Despite the Board's expressed intention that this not be considered a "registration" requirement (Order at p. 185), the import is identical since reporting becomes a legally enforceable obligation.

The Board and the IEPA are separate and distinct entities created by the Act. The Board's role is to develop appropriate state regulatory standards, and the IEPA's role is to administer the state's environmental regulatory program. The Board does not have the authority to mandate that the IEPA develop a reporting program in the context of a CAFO NPDES permitting rule on the basis of its belief that such will "be helpful to the Agency in setting priorities for inspecting CAFOs." *Id.*

One of the rationales presented by the Board for the reporting rule was that there was a reporting requirement in the now defunct federal rules. Order at pp. 180-181. The federal rules no longer include any such requirement. *Id.* at 181. If the USEPA required it, the Board's authority would be understood to flow from the statutory requirement that the State implement the federal CWA program. There is no separate state statute that provides for the authority to require CAFOs to report, and the Board's generalized rulemaking authority, as cited in the First Notice Opinion and Order, is not so broad as to allow for the promulgation of this requirement in this context. Quite simply, the Coalition believes that the Board's attempt to require reporting of

unpermitted entities is an *ultra vires* act. The Coalition agrees with the IEPA: the type of reporting the Board seeks here requires legislation. IEPA Memo of Law at p. 6. In its Memorandum, the IEPA concludes:

Given this legal uncertainty and the controversy surrounding the issue, the only way to assure that Illinois has clear authority to adopt a registration or reporting requirement for all CAFOs, or classes of unpermitted CAFOs, would be to obtain additional statutory authority from the General Assembly that either specifically authorizes the Agency to collect specified information or specifically authorizes the Board to adopt regulations requiring the submittal of specified information to the Agency.

*Id.*

**B. The IEPA Does Not Need This Information**

The IEPA, which is the regulatory entity responsible for NPDES permitting and oversight of this program, has acknowledged that it does not believe this type of reporting of non-permitted CAFOs is necessary or within its authority. *Id.* at pp. 5-6. As the record reflects, the USEPA originally proposed a federal rule similar to the one the Board proposes in this proceeding. Order at pp. 180-181. The Board's First Notice Opinion and Order notes that USEPA cannot require Illinois to adopt a CAFO reporting rule and that a reporting rule is not required to maintain NPDES program delegation. *Id.* at 182. However, the Board found that the reporting rule was necessary and appropriate for Illinois to implement the NPDES CAFO program. *Id.* at 184. Specifically, the Board found that there were significant gaps in currently available information, even though the CAFO inventory may be sufficient to constitute a "comprehensive" inventory as required by 40 CFR 123.26(b)(1). *Id.* The Board also noted that the May 2011 draft rule included a registration requirement, and that the IEPA believed a registration requirement was necessary to implement the NPDES program. *Id.*

The Coalition disagrees that there are significant gaps in the inventory, and also disagrees that the registration requirement is necessary for the IEPA to implement the NPDES CAFO program. When the IEPA was developing its proposed amendments, the IEPA did not have a comprehensive inventory of CAFOs. Statement of Reasons at p. 90. In its February 2011 Work Plan with USEPA, the IEPA agreed to amend Subtitle E and to include in these amendments a registration program for large CAFOs. *See Attachment A, February 2011 Work Plan.* Therefore, the May 2011 draft rule included a registration requirement. The IEPA also agreed in the February 2011 Work Plan to develop a plan to create and maintain a comprehensive inventory. *Id.* at p. 6. The IEPA's plan was to consult with Illinois Department of Agriculture, Illinois Emergency Management Agency, and Illinois Department of Public Health for information these departments have on large CAFOs. *Id.* at p. 7. The IEPA would then compile an inventory based on the information gathered from these departments and information gleaned from IEPA inspections. *Id.* The IEPA proceeded with the development of a comprehensive inventory simultaneously with the rule development. In the meantime, USEPA proposed its reporting rule, and IEPA amended its proposed rules accordingly. *See Transcript of August 21, 2012 Hearing at pp. 73; 110-113.* By the time the USEPA reporting rule was withdrawn, the IEPA had made enough progress on its comprehensive inventory that it no longer considered a registration program necessary. *Id.* When the IEPA and USEPA renewed the Work Plan in February 2013, the requirement to include a registration program in Subtitle E was removed. *See Attachment B, February 2013 Work Plan.* Instead, the IEPA agreed that it would continue to update the CAFO inventory, regularly submit the inventory to USEPA and make the inventory publicly available. *Id.* The Coalition understands that the IEPA is poised to meet that agreement with USEPA.

In its First Notice Opinion and Order, the Board stated that the IEPA needed to identify between 315 and 365 unpermitted large CAFOs. Order at p. 184. This assertion is based on the IEPA's estimate that Illinois has approximately 350 to 400 large CAFOs. *Id.* The Coalition believes that estimate to be high and understands that IEPA agrees that its original estimate was high. Further, the IEPA has implemented a process to regularly update its inventory and will ensure the CAFO inventory is maintained and updated on a regular basis. IEPA's Post Hearing Comments at p. 14 (January 16, 2013). Contrary to the Board's assertions, there are not significant gaps in the inventory.

In this case, the environmental groups urged a registration program "which would require large CAFOs to register with the IEPA and provide vital information about their operations." Order at p. 122. The IEPA, on the other hand, maintained that such registration and reporting was not necessary for its purposes, as it was developing an inventory it believed to be adequate for its purposes, without collecting unnecessary data. *Id.* at pp. 183; 247.

Under the Board's proposed rule, unpermitted CAFOs would be required to report owner name and address, facility address and location, facility GPS coordinates, types of animal holding areas, types and sizes of animals, and maximum number of animals. *Id.* at pp. 275-276. The Coalition understands that the IEPA currently has this information for the CAFOs in its inventory. The Board's registration requirement is not necessary because it does not require the submission of new information. The Board's reporting rule also creates additional and repetitive administrative obligations as the IEPA is currently maintaining its current inventory through the process stated above.

**C. The Board's Proposed Section 501.505 is Not Supported By the Record in this Proceeding**

The Board's proposed Section 501.505 is not supported by the record evidence in this proceeding. The Board's First Notice Opinion and Order setting forth the rationale behind the proposed Section 501.505 on this point is somewhat circuitous, and does not analyze any specific record evidence supporting a regulatory need for such requirement. The proponent of the overall proposed rule, the IEPA, did not support it and, accordingly, provided no evidence in justification. In fact, the IEPA maintained it was unnecessary, "unproductive," and "burdensome." *See* Transcript of August 21, 2012 Hearing at p. 112; *See also* IEPA's Post Hearing Comments at p. 14 (January 16, 2013).

The only proponents of this reporting requirement were the environmental community, and the arguments they presented do not amount to an evidentiary need for a pollution "standard" to protect the environment and prevent pollution, as envisioned by the Act's provisions setting forth the Board's statutory authority to develop pollution standards. There has been no record evidence demonstrating that the proposed rule will help in any way to achieve the purposes espoused by the environmental community ("identify dischargers and bring them into compliance" and "identify causes of fish kills and discharges" Order at p. 178). In short, those dots are simply not connected in this record.

**D. The Board's Proposed Section 501.505 is Unduly Burdensome for Illinois Farmers**

The Board's proposed language in Section 501.505 is unduly burdensome for Illinois farmers for several reasons, including the required public divulgence of information without sufficient public purpose to counteract privacy and security concerns. The Coalition wholeheartedly opposes the collection of personal information of CAFO owners or operators in

Section 501.505(c)(1), such as information concerning all owners or operators of a facility, the facility location, the number of animals and required reporting whenever the number of animals increase. When the Board's record reflects that *only* the environmental interest groups (and *not* the state regulatory authority) assert a need for such information, the need for such requirement (from a regulatory perspective) simply has *not* been demonstrated. Rather, the requirement to submit such extraneous information appears to serve little purpose other than to provide potential fishing expedition opportunities to those seeking to harm farmers by filing lawsuits, since all of the required information would be subject to public release through the Freedom of Information Act ("FOIA").

It should be sufficient that if the facility is discharging, it is required to get a permit and disclose appropriate information. *See Nat'l Pork Producers Council v. U.S. E.P.A.*, 635 F.3d 738 (5th Cir. 2011). If it is not, it is not subject to regulation, via reporting obligation or otherwise, in the NPDES permitting rules. *Id.* Despite the Board's expressed intention that this not be considered a "registration" requirement, the impact on the farmer is identical since reporting becomes a legally enforceable obligation.

**E. The Board Should Revert Back to the IEPA's Originally Proposed Section 501.505**

For the reasons stated above, the Coalition strongly urges the Board to revert to the IEPA's proposed Section 501.505 before moving to Second Notice with this rule proposal. It is not the state's responsibility, nor should it be the state's goal, to require private businesses, outside the scope of required permitting, to report certain information in order to maintain an adequate "data base" of information perceived to be important by environmental groups. Environmental law presumes that the obligation to obtain a permit is what brings an entity into



the “regulatory awareness” of the state regulatory entity. *See Park Crematory v. Illinois Pollution Control Board*, 264 Ill App. 3d 498 (1st Dist., 1994).

Quite simply, if an entity is not required to obtain a permit, it should not need to conform to regulations which require it to provide information about its operations to the state. Here, such requirement violates the very intention of the NPDES permit program, which is the underlying basis of the IEPA’s proposed rule. The Board’s proposed Section 501.505 requires reporting of facilities that are not discharging, which is similar to the permitting required in the federal rules that were struck down as *ultra vires* by the federal court. *See Waterkeeper Alliance, Inc. v. U.S. E.P.A.*, 399 F.3d 486 (2d Cir. 2005); 68 *Fed.Reg.* 7176 (Feb. 12, 2003) (2d Circuit invalidates “duty to apply” provision finding that the originally proposed federal rule to be inappropriate absent an actual and ongoing discharge). *See also Nat'l Pork Producers Council v. U.S. E.P.A.*, 635 F.3d 738 (5th Cir. 2011). For the same reasons expressed by the federal courts in the above-referenced cases, CAFOs that are not required to get an NPDES permit should not be subject to the proposed rule.

The Coalition will continue to oppose the reporting requirement should the Board move it forward to Second Notice in its current form. Thus, the Coalition requests that the Board adopt the IEPA’s proposed Section 501.505, which states:

- a) The requirements of this Section must be met if the United States Environmental Protection Agency adopts a regulation pursuant Section 308 of the Clean Water Act [33 U.S.C. 1318] that requires submittal of information from one or more categories of CAFOs.
- b) Any CAFO required to submit information under a final rulemaking pursuant to Section 308 of the Clean Water Act described in subsection (a) of this Section, must comply with the requirements of that regulation unless such requirements are overturned or stayed by a court.
- c) Any CAFO required to submit information to the United States Environmental Protection Agency pursuant to a final action under Section 308 of the Clean

Water Act must submit the same information to Illinois EPA. The submission must occur simultaneously with the submittal to the United States Environmental Protection Agency or within 90 days following the effective date of this Section, whichever is later.

d) The submittal required under this Section should be sent to:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attn. Permit Section  
P.O. Box 19276  
Springfield, Illinois 62794-9276.

### **III. THE BOARD'S PROPOSED CHANGES TO SECTION 501.404(b)(3) – TEMPORARY MANURE STACKS**

By the Board's elimination of two words in the IEPA's proposed Section 501.404(b)(3), the Board's First Notice proposal changes a workable regulatory provision into an unmanageable and costly mandate. As proposed by the IEPA, with input from the stakeholders, the provision reads:

A temporary manure stack shall be constructed or established and maintained in a manner to prevent runoff and leachate from entering surface waters or groundwaters. A cover and pad or other control *must be provided when needed* to prevent runoff and leachate from entering surface waters and groundwater. (Emphasis added)

IEPA Proposed Amendments to 35 Ill. Adm. Code Parts 501, 502, and 504 at p. 15 (March 1, 2012).

As proposed by the Board for First Notice, the provision reads:

A temporary manure stack shall be constructed or established and maintained in a manner to prevent runoff and leachate from entering surface waters or groundwaters. A cover and pad or other control *must be provided* to prevent runoff and leachate from entering surface waters and groundwater. (Emphasis added)

Order at p. 273.

The Board's revised language requires the interpretation that *whenever* a temporary manure stack is utilized, a cover and pad or other control *must* be provided. The mandate would add significant cost for farmers by requiring that a control be utilized, even in situations where it is not needed.

The proposed change in the provision is of particular concern to Illinois dairy farmers. Attached is an Affidavit from Mr. Don Berlage. *See Attachment C, Berlage Affidavit.* Together with his wife and son, Mr. Berlage operates a family dairy farm. *Id.* at ¶1. He is also a Director of the Illinois Milk Producer's Association, Vice-President of the Jo Daviess County Farm Bureau, and a member of the Swiss Valley Farms Dairy Cooperative. *Id.* Mr. Berlage states that if the Board's proposal is intended to require that temporary manure stacks have a pad and cover or other control *at all times*, the requirement would add significant cost for farmers. *Id.* at ¶¶6-7. Mr. Berlage explains that temporary manure stacks are primarily used by the smaller dairies in the summertime when rainfall is relatively low. *Id.* at ¶8. The farmer typically utilizes practices designed to limit environmental impact (such as stacking manure in pastures or hayfields which are natural vegetative filter strips until the manure can be applied at appropriate agronomic rates). *Id.* On the other hand, the cost to construct an earthen-bermed stacking pad, with an impermeable floor of *in situ* clay, will cost thousands of dollars, will require Illinois Department of Agriculture permitting, will take land out of production, and is not necessary to protect the environment in small dairy operations. *Id.* at ¶¶9-10. Mr. Berlage requests that the Board adopt the IEPA's original proposed language, which provides flexibility for farmers to protect water resources by requiring a pad and cover when necessary to eliminate leachate and runoff. *Id.* at ¶¶11-12. On the other hand, the Board's proposed requirement would increase both private

sector costs (construction, permitting, and engineering) and public costs (permitting, administrative, oversight).

The Board's proposed requirement is overly broad and is not warranted by any record evidence, as a removal of the discretionary proviso is not necessary to prevent a discharge into the environment. This was the IEPA's focus in its proposal (Statement of Reasons at p. 37) and should, as well, be the Board's. Indeed, the IEPA's proposed rules related to temporary manure storage are already sufficient to prevent a discharge. For example, the IEPA proposal (and now the Board's First Notice proposal) defines temporary manure stacks as "potential secondary sources" (Order at p. 272) and, as such, makes them subject to the minimum setback zones established in Title IV of the Act. *See* 415 ILCS 5/14 *et seq.* To require pads and covers and other controls, where setback protection is already provided for, is simply not justified for environmental protection as temporary manure structures cannot be presumed to cause a discharge without such controls. Overall, the Board's proposed language represents costs without corresponding environmental benefit. The Coalition requests that the Board reinsert the discretionary proviso "when needed" into Section 501.404(b)(3) prior to moving to Second Notice.

#### **IV. AGRICULTURAL STORMWATER EXEMPTION PROVISIONS – SECTIONS 501.405, 502.500, and 502.600**

The Coalition has concerns regarding the flexibility for large unpermitted CAFOs to claim the agricultural stormwater exemption, as well as the limited application of the exemption, as it is included in the Board's proposed rule.

First, as acknowledged in its First Notice Opinion and Order, the Board agrees that the federal rules provide flexibility for large unpermitted CAFOs to obtain the agricultural stormwater exemption, and that this same flexibility should be reflected in Illinois' rules. Order

at p. 169. The Coalition appreciates that recognition, but nonetheless interprets the Board's proposed Sections 501.405, 502.500 and 502.600 to constrain that flexibility. For example, if a large unpermitted CAFO "must comply with" Sections 502.102 and 502.510(b), as required by Section 501.405(a), then does that mean the CAFO can only avail itself of the agricultural stormwater exemption for land application by specifically implementing a nutrient management plan as required by Section 501.405? The Coalition is concerned this would eliminate the flexibility of using other means of demonstrating compliance.

The flexibility provided for in the federal rules was also acknowledged by the IEPA at the August 21, 2012 hearing. Mr. Sanjay Sofat testified that the field application rules must be complied with, but noted that the method of compliance is flexible because the facility operator will know the best way to comply at the particular facility and because the various technology available to an operator will be utilized in different ways at different facilities. Transcript of August 21, 2012 Hearing at pp. 155-156. To specifically require one method of compliance would limit the flexibility provided for in the federal rules. *Id.* The flexibility provided by the federal rules must also be incorporated here so as to provide consistency for compliance.

Second, the Coalition believes it wrong to limit application of the agricultural stormwater exemption to land application scenarios, as the Board's First Notice proposal appears to do. A recent federal decision has a direct relation to the appropriate scope of the agricultural stormwater exemption. *See Alt v. United States Environmental Protection Agency*, 2:12-CV-42, 2013 WL 4520030, 25 (N.D.W. Va. Apr. 22, 2013). In *Alt*, the court found that "litter and manure washed from the Alt farmyard to navigable waters by a precipitation event is an agricultural stormwater discharge, thereby rendering it exempt from the NPDES permit requirement of the Clean Water Act." *Id.* The court disagreed with the USEPA's assertion that

the exemption only applied to discharges from land application areas under the control of the CAFO. *Id.* at 6. Instead, the court ruled that it is inappropriate to limit the agricultural stormwater exemption solely to the land application scenario, finding: “there is more to the agricultural stormwater exemption than as set forth in the 2003 land application area regulations.” *Id.* at 21-22. The Illinois rules should reflect this broader exemption.

Similarly, the Coalition supports further clarification in Sections 501.405 and 502.500 to ensure that the records to be kept are for land application scenarios only. The addition of the words “for field application” clarifies that records demonstrating compliance with technical standards are required only if the agricultural stormwater exemption is claimed for land application. The Coalition also supports the addition of language that allows a CAFO to claim an agricultural stormwater exemption for those areas that are neither the production area nor the land application area, as clarified by the *Alt* decision.

The Coalition, therefore, recommends that Sections 501.405, 502.500 and 502.600 of the Board’s First Notice proposal be modified as follows to further clarify the flexibility as explained by the IEPA and provided by the federal rule.

Section 501.405      Field Application of Livestock Waste

a) For livestock management facilities and livestock waste handling facilities that are not required to obtain an NPDES permit, the quantity of livestock waste applied on soils shall not exceed a practical limit as determined by soil type, especially its permeability, the condition (frozen or unfrozen) of the soil, the percent slope of the land, cover mulch, proximity to surface waters and likelihood of reaching groundwater, and other relevant considerations. These livestock waste application guidelines will be adopted pursuant to Section 502.305, unless otherwise provided for by Board regulations. Facilities required to obtain an NPDES permit are subject to the requirements in Subpart F of Part 502. Unpermitted Large CAFOs claiming an agricultural stormwater exemption for field application must ~~comply with~~ keep records consistent with Sections 502.102 and 502.510(b).

Section 502.500 Purpose, Scope and Applicability

The requirements in this Subpart are intended to minimize the transport of nitrogen and phosphorus to waters of the United States in compliance with the nutrient management plan.

a) The requirements in this Subpart apply to CAFOs required to obtain an NPDES permit. Unpermitted Large CAFOs claiming an agricultural stormwater exemption for field application must ~~comply with~~ keep records consistent with Sections 502.102 and 502.510(b).

Section 502.600 Applicability

a) This Subpart provides livestock waste discharge limitations and technical standards for permitted CAFOs. Permitted CAFOs must achieve the livestock waste discharge limitations and technical standards in this Subpart as of the date of permit coverage. ~~Unpermitted Large CAFOs claiming an agricultural stormwater exemption must comply with Sections 502.102 and 502.510(b) and are subject to portions of this Subpart to the extent required by Section 502.510(b).~~ This Subpart does not apply to CAFOs that stable or confine Horses, Sheep or Ducks. CAFOs that stable or confine Horses or Sheep are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.720. CAFOs that confine Ducks in either a Dry Lot or Wet Lot are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.730.

b) Unpermitted Large CAFOs claiming an agricultural stormwater exemption for field application must keep records consistent with Sections 502.102 and 502.510(b) and are subject to portions of this Subpart to the extent required by Section 502.510(b). CAFOs claiming an agricultural stormwater exemption for areas that are not production areas or land application areas may do so without keeping records meeting the intent of Sections 502.102 or 502.510(b).

**V. CASE-BY-CASE DESIGNATION REQUIRING NPDES PERMITS – SECTION 502.101**

The Coalition appreciates that the Board included in proposed Section 502.106(e) an appeal process for small and medium AFOs who have been designated as CAFOs. The Coalition's ultimate goal in seeking such an appeal process was to allow owners or operators of such facilities the opportunity to present evidence (in that case, to the Board) to prove that the

AFO is not a significant contributor of pollutants to waters of the United States before being required to prepare and file an NPDES permit application with the IEPA.

Upon further examination, however, the Coalition believes a different process, similar to that described in the federal rule, would be preferred. The IEPA's First Notice Public Comment proposes case-by-case designation language for a modified Section 502.101. The Coalition believes that the IEPA's modified language allows for a pre-designation exchange of information between the owner or operator of an AFO and the IEPA, as well as an additional period of 90 days by which the owner or operator, if ultimately designated as a CAFO, must prepare and file an NPDES permit application with IEPA; while retaining the right to contest that designation as part of a later permit appeal before the Board. Such a process achieves the Coalition's goal of allowing owners or operators of small and medium AFOs to provide evidence to the IEPA that the AFO is not a significant contributor of pollutants to waters of the United States prior to being required to prepare and file an NPDES permit application with the IEPA.

Therefore, the Coalition supports the modified language set forth in the IEPA's First Notice Public Comment.

## **VI. THE BOARD'S PROPOSED WINTER APPLICATION PROVISIONS - SECTION 502.630**

Section 502.630 of the Board's First Notice Opinion and Order amends the IEPA proposal to include a "non-exhaustive list of examples" of measures that could be taken before conducting winter surface application. Order at p. 235. The Coalition appreciates that the Board states that this list "neither requires a facility to consider the listed alternatives nor forbids it from considering other measures." *Id.* The Board noted that the practicality of measures will vary from operation to operation. *Id.*



However, the Coalition believes that the Board's proposed Sections 502.630(a)(1)(A) and 502.630(a)(1)(C) limits the flexibility the Board attempts to achieve. By creating a list of examples that "includes, but is not limited to," the Board appears to have established an enforceable *de facto* requirement that those listed measures are minimum steps that must be exercised, to which additional processes may be added. Amending the language as the Coalition proposes below provides the necessary flexibility to CAFOs, so that they can implement measures that best fit the situation without being required to implement the processes listed.

a) Winter Application Prohibition

1) Surface land application of livestock waste on frozen, ice covered or snow covered ground is prohibited, unless:

A) No practical alternative measures are available to handle the livestock waste within storage facilities or to dispose the livestock waste at other sites. Examples of practical alternative measures may include, but are not limited to, the transfer of waste to another waste handling facility or sewage treatment plant, rental or acquisition of a storage tank, reduction of herd size or depopulation, and protection of the facility from direct precipitation and clean stormwater runoff;

\*\*\*\*\*

C) Prior to December 1, the owner or operator has taken steps to provide 120 days of available storage capacity of manure storage areas. Examples of steps that could be taken may include, but are not limited to, land application of livestock waste, transfer of waste to another party, protection of waste storage structures from direct

**VII. SITING, LOCATION AND SETBACK CONSIDERATIONS – CONSISTENCY WITH THE LMFA AND REGULATIONS PURSUANT THERETO.**

The Coalition objects to any additional setback provisions or location regulations that go beyond those set forth in the LMFA and regulations established pursuant thereto. The Coalition provides this comment because of the discussion contained in the Board's First Notice Opinion and Order on page 199. There, the Board expressed that it had the authority to "regulate the

location of livestock management and waste handling facilities” and has done so before, citing Amendments to 35 Ill. Adm. Code 501, Agriculture-Related Pollution (Management of Livestock Wastes), R90-7, June 29, 1991. Order at p. 199. The Board then provides a discussion concerning the LMFA and concludes:

[U]nlike the Agency, the Board believes that [the roles of the Department of Agriculture and county boards pursuant to the LMFA] have not displaced the Board or preempted the Board’s authority to propose and adopt siting requirements in its agriculture related pollution regulations, just as it has already done in enacting Section 501.402.

*Id.* at 200.

The Coalition disagrees with the Board’s above conclusion. While Section 100 of the LMFA, 510 ILCS 77/100, was not intended to limit existing obligations and responsibilities under the Act, the Coalition, nonetheless, believes that it was the clear intention of the General Assembly that the LMFA was to be the sole regulatory tool for the siting and location of new farms. 510 ILCS 77/12. This was a conscious and specific decision made by the General Assembly in determining the responsibilities of respective state agencies. In the legislative debate on the rewrite of the LMFA in 1999, the House sponsor of the legislation stated the agency responsibilities as follows:

The Pollution Control Board would promulgate *only* the construction and design standards for livestock facilities. Then the Department of Agriculture would promulgate all other rules to implement the Act. Specific to the facility design and construction standards, the Department of Agriculture in conjunction with the Livestock Advisory Committee, which is made up of the EPA, DNR and Department of Public Health, would propose standards to the Pollution Control Board and after which the board would hold hearings on and adopt final standards. These design and construction standards would have to be based on the Midwest Plan Service handbooks and USDA NRCS standards, as set forth in this Bill. *The Department of Agriculture alone would promulgate all other rules to implement the Bill.*

91st Ill. Gen. Assem., House Proceedings, April 29, 1999 at p. 34 (statements of Representative Smith) (emphasis added).

Although the Coalition agrees with the Board that there is no support in the record for the modification of any setbacks in the context of this rulemaking, the Coalition nonetheless disagrees with the legal analysis provided as it relates to the Board's independent authority to do so. The LMFA was established to be administered by the Illinois Department of Agriculture in such a manner as to prevent and avoid environmental issues and pollution. If such pollution did occur, however, the IEPA was tasked with addressing such pollution; adherence to the LMFA, where a discharge does occur, is no defense to the violation.

As it relates to setbacks however, the Board's authority is subordinate to that statutory construct and, thus, the Board cannot establish location or setback standards relevant to livestock management facilities that are not provided for legislatively, either through a separate enabling statute or through the Board's authority to develop rules consistent with the CWA. As the federal rules that underlie this proceeding have no relationship to location standards, and as there is no enabling statute allowing the Board to develop such standards, the Coalition believes there is no such authority and would strongly oppose any attempt by the Board to develop such.

#### **VIII. REQUIREMENT TO OBTAIN NPDES PERMIT - SECTION 502.101**

In its First Notice Opinion and Order, Board proposes to delete two important provisions of the IEPA's proposed rule at Section 502.101, provisions that are designed to articulate the parameters upon which a federal NPDES permit will be required. Whether a permit is required for a particular facility is one of the most basic elements of the proposed rule. The Coalition believes it extremely important that the rules provide the clarity farmers need and, accordingly, has worked hard with the IEPA, prior to the proposal's filing, to ensure that there is a common

understanding related to permit obligations – and that the rules spell out those obligations. The Coalition appreciates the Board’s recognition of the legal status of the permit obligation, but fails to understand why such status is not properly articulated in its proposed rules, so that enforceable obligations are clearly understood. The Coalition, therefore, requests that the Board reinsert the two provisions that the IEPA had included in its rule proposal, referenced below.

First, the IEPA included language that codified the federal intention which underlies the obligation to obtain a CAFO NPDES permit. In proposing its rules in 2008, as an explanation to the public concerning whether a past discharge necessarily triggers a duty to apply for an NPDES permit, the USEPA stated that 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. Revised National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines for Concentrated Animal Feeding Operations in Response to the Waterkeeper Decision; Final Rule, *73 Fed. Reg.* 225 (20 Nov. 2008) at p. 70423.

The IEPA, as the administrator of the state’s NPDES permitting program, obviously believed this language to be an important addition to its rules. The Coalition agrees that it is important, since it properly explains to the regulated community that an inadvertent discharge can, and should, be corrected in a manner that prevents future discharges and, if the necessary correction occurs, an NPDES permit would not be required. The Board’s rationale for deleting this provision is as follows:

The Agency argued that its proposed Section 502.101(b)(1) seeks to clarify permitting obligations in light of the Pork Producers case and reduce confusion about which facilities need to apply for a permit. The Environmental Groups argued that this language is inconsistent with current federal rules and should be struck from the proposal.

The Board need not determine whether the Agency correctly interpreted the case law in proposing Section 502.101(b)(1). Even if it has done so, a single decision could make the Board's regulations inconsistent with federal authorities and lead to further rulemaking by the Board. In any case, the Board need not adopt language such as the proposed subsection (b)(1) to give effect to federal case law and regulations. Furthermore, the Agency's Statement of Reasons explained the current status of CAFO permitting obligations, and the Board believes that it is more appropriate to provide this explanation there than to codify it into the Board's regulations. Accordingly, for these reasons the Board strikes the Agency's proposed subsection (b)(1) from its first-notice proposal.

Order at p. 211.

The Coalition finds the above rationale disconcerting, as it fails to provide the regulated community with the certainty it needs in order to properly understand its permit obligations. The proposed language does not come directly or solely from the *Pork Producers* case, but instead, is a direct articulation of the federally expressed intention provided by the USEPA in its adoption of the 2008 rule proposal. Thus, it is a direct federal expression of when a permit will be required under the CWA. As the General Assembly mandated that NPDES permits are only required in Illinois if they are required federally, the IEPA's proposed provision is absolutely appropriate, and necessary for proper implementation of the permit obligation. Further, given the fact that the Board hears enforcement cases, it is important for the Board to recognize the appropriate federal intention now, in the context of this rule, so that the regulated community has the certainty it needs. Simple reference to the IEPA's Statement of Reasons in the Board's First Notice Opinion and Order is insufficient for purposes of regulatory intention, given IEPA's proposed codification of the point.

The second important provision that the IEPA included in its proposed rule, and which the Board proposes to delete, is directly taken from the Act and is a simple regulatory codification of Section 12(f). The Board's rationale for deleting this direct statutory reference is likewise disconcerting:

While the Board recognizes that proposed subsection (b)(2) reflects Section 12(f) of the Act, it does not agree that this provides a compelling reason to repeat that language in the Board's regulations. The Board need not adopt language such as the proposed subsection (b)(2) to give effect to a provision of Section 12(f) of the Act. Accordingly, the Board strikes the Agency's proposed subsection (b)(2) from its first-notice proposal.

Order at p. 208.

As the Board routinely codifies statutory language where the administering agency or regulated community believes appropriate, the Coalition objects to its deletion and sees no valid reason therefore. Thus, the Coalition proposes to reinsert language believed to be appropriate by the IEPA in its administration of the CAFO program that will ensure that an NPDES permit is only required in accordance with federal law. The Coalition here specifically suggests that 502.101(b) read as follows:

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

## **IX. LAND APPLICATION PROTOCOLS**

The Coalition suggests certain discrete, specific changes to particular subsections of the above referenced land application provisions proposed by the Board in its First Notice Opinion and Order. In support of those changes, the Coalition attaches to this Comment affidavits provided by Dr. Ted Funk and Mr. David Trainor. See Attachment D, *Funk Affidavit* and Attachment E, *Trainor Affidavit*. Both individuals provided significant testimony at hearing (Funk on October 23, 2012 in Urbana; Trainor on November 14, 2012 in Elizabeth). Both are

well-known and well-regarded experts in their respective fields. Both have reviewed the Board's First Notice Opinion and Order. The affidavit testimony they provide, and the specific recommended changes they propose, are summarized below and should be considered supplemental to, and clarification of, the testimony they provided at hearing. Additionally, Mr. Trainor provides comment, in his affidavit at paragraph 23, regarding P.C. #1175.

**A. Section 502.510(b)(13) and Section 502.615(a)(10) - Subsurface Drainage Tiles/Nutrient Transport Potential**

Manure applications that are conducted at appropriate rates in appropriate soil conditions are not likely to encroach on saturated soil near tile depths; nonetheless, site-specific evaluations as proposed by the Board may be warranted in certain instances. *Funk Affidavit* at ¶5. Visual inspection of tile inlets and outlets is reasonable in many cases. *Id.* However, visual inspection of subsurface drainage system components other than the inlets and outlets, prior to manure application, may be impossible (e.g. if application is over a standing crop that prevents an observer seeing the soil surface) or inconclusive (application is through or over a heavy layer of crop residue). *Id.*

For a field where drain tiles were installed many years ago, the actual presence of a subsurface drainage system may be undocumented. *Id.* at ¶6. There may be no maps or other records of the tile locations, other than the physical presence of tile inlets and outlets. *Id.* The absence of this mapping is relevant to proposed Section 502.510(b)(13) and, to a lesser extent, the Board's proposed information requirements set forth for Nutrient Management Plans in Section 502.505(g). *Id.* Further, in addition to being unknown, existing subsurface drainage systems may not have exposed tile inlets at the soil surface. *Id.* With no clues in the field identifying these structures, it may be virtually impossible for a person to comply with the requirement as proposed by the Board. *Id.*

For the above-stated reasons, the Coalition recommends the following changes to Section 502.510(b)(13) and Section 502.615(a)(10) prior to the Board moving these rules to Second Notice. *Id.* at ¶¶ 7; 10.

Section 502.510(b)(13):

- (13) The plan for the inspection, monitoring, management and repair of subsurface drainage systems at the livestock waste application site. When allowed by land surface cover or otherwise practicable, inspection of subsurface drainage systems shall include visual inspection of tile inlets and outlets prior to land application to determine failures that may cause discharges and visual inspection of tile inlets and outlets during and after land application to identify discharges. Inspection of subsurface drainage systems shall include visual inspection at least annually if the field is documented to contain such a system.

Section 502.615(a)(10):

- a) Field Assessment. An individual field assessment of the potential for nitrogen and phosphorus transport from the field to surface waters must be conducted and the results contained in the nutrient management plan. The following factors must be identified for each field to determine nitrogen and phosphorus transport potential to waters of the United States.

\* \* \*

- 10) Subsurface drainage tiles, where evidence of location is available.

**B. Section 502.645(e) – Land Application Setback Requirements**

As the Coalition has asserted above, state agencies have only that authority authorized by the legislature and no legislative provision exists here to change what Illinois law already recognizes as the appropriate setback for land application proximate to potable water supply wells. That setback, as contained in the LMFA, is 150 feet. *See* 510 ILCS 77/20(f)(6); 8 Ill. Adm. Code 900.803. Further, there is not sufficient record evidence supporting a 200 foot setback (as opposed to a 150 foot setback) for land application.

The recognized LMFA setback of 150 feet is already greater than federal regulation requires. *Funk Affidavit* at ¶12. Further, Dr. Funk points out that “farmers have received



significant training regarding with this setback required by the LMFA.” *Id.* IEPA’s proposed 200 foot setback is apparently based on the Illinois NRCS 633 Standard. However, the Illinois NRCS 633 Standard is obsolete and has been replaced entirely by the Illinois NRCS 590 Standard, which precludes manure application, among other things, “within 150 feet of potable water supply wells.” As such, the 200 foot setback included in the Board’s First Notice Opinion and Order, if implemented, would be the sole requirement in Illinois for a setback of more than 150 feet. The Coalition suggests that the Board revise this language to include a setback requirement of 150 feet that is equivalent to the LMFA setback. This will provide consistency with the training farmers receive and with the nutrient management plan development discussions they will have with NRCS. Moreover, such setback is still greater than the federal rules require, as they do not set forth any appropriate setback. Thus, the Coalition recommends that the Board revise proposed Section 502.645(e) as follows:

- e) Livestock waste shall not be land applied within 150 feet of potable water supply wells.

C. **Section 502.615(c)(6) – Nutrient Transport Potential/Application Standards and Field Sizes**

The Board’s First Notice Opinion and Order includes the following proposed language at Section 502.615(c)(6):

- c) Nitrogen-based application of livestock waste must be conducted consistent with the following requirements:

\* \* \*

- 6) where surface waters are on the assessed field or within 200 feet of the field, the livestock waste applied to the field shall be injected or incorporated within 24 hours of the application or equivalent conservation practices must be installed and maintained on the field pursuant to the United States Department of Agriculture Natural Resources Conservation Service practice standards; and

Order at p. 309.

The Board's proposed Section 502.615(c)(6) will prove confusing to implement, due to the fact that field sizes can vary considerably and runoff from a from a single field can flow in several directions, depending on the watershed divides. *Funk Affidavit* at ¶15. As proposed, the provision appears to limit application of livestock waste on the entire field, even though the majority of the field is farther than 200 feet from surface waters. *Id.* Accordingly, the Coalition requests that Section 502.615(c)(6) be revised to state the following:

- 6) where surface waters are on the assessed field or within 200 feet of the field, the livestock waste applied to portions of the field that are within 200 feet of surface waters shall be injected or incorporated within 24 hours of the application or equivalent conservation practices must be installed and maintained on the field pursuant to the United States Department of Agriculture Natural Resources Conservation Service practice standards; and

**D. Section 502.615(d)(3) – Nutrient Transport Potential/Phosphorus-based Application**

The Board's proposed Section 502.615(d)(3) provides:

- d) Phosphorus-based application of livestock waste must be conducted consistent with the following requirements:

\* \* \*

- 3) if the soil contains greater than 50 pounds of available soil phosphorus per acre (median Bray P1 or Mehlich 3 in accordance with the Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in Section 501.200)), phosphorus-based application rates must be neutral during the nutrient management plan period;

Order at p. 309.

Dr. Funk also recommends a change to this provision, which the Coalition supports. As he recognizes, "the intention of this provision is to limit the long-term buildup of phosphorus in the fields used for land application of livestock waste." *Funk Affidavit* at ¶18. However, the appropriate trigger for using a phosphorus-limited application rate is stated in Section 502.615(c)(2): median soil phosphorus test greater than 300 pounds per acre. *Id.* The

Illinois Agronomy Handbook guidance implies optimum phosphorus test of 50-70 pounds per acre, depending on the area of the state, as soils have different phosphorus supplying power. *See* Fabián G. Fernández and Robert G. Hoelt, *Managing Soil pH and Crop Nutrients*, “Illinois Agronomy Handbook,” University of Illinois, College of Agriculture, Consumer and Environmental Sciences, 100-102, available at: <http://extension.cropsci.illinois.edu/handbook>. The change proposed below would result in a more understandable regulatory provision and cause stable or decreasing soil phosphorous concentration (soil test P) over the duration of the plan period. That reduction would then be favorable to reducing phosphorous transport potential from that area of the field.

Accordingly, the Coalition and Dr. Funk (*Id.* at ¶16) recommend that Section 502.615(d)(3) be revised as follows:

- 3) if the soil contains greater than ~~50 pounds~~ the agronomic optimum of available soil phosphorus ~~per acre~~, but less than 300 pounds per acre, (median Bray P1 or Mehlich 3 in accordance with the Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in Section 501.200)), ~~phosphorus based application rates must be neutral during~~ phosphorus should be applied at rates calculated to maintain or lower the phosphorus soil test over the nutrient management plan period;

**E. Section 502.620(f) – Protocols to Land Apply Livestock Waste/Dominant Critical Soil Types**

The Board’s First Notice Opinion and Order at Section 502.620(f) states:

- f) Surface land application may be used when the land slope is no greater than 5% or when the yearly average soil loss calculated using Revised Universal Soil Loss Equation is equal to or less than 5 tons per acre per year or Erosion Factor T, whichever is less, regardless of slope. Injection or incorporation within 24 hours shall be used when the land slope is greater than 5% and the yearly average soil loss calculated using Revised Universal Soil Loss Equation is greater than 5 tons per acre per year or Erosion Factor T, whichever is less.

BOARD NOTE: Soil loss may be determined using Revised Universal Soil Loss Equation 2 (RUSLE2) software program available at [http://fargo.nserl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_Index.htm](http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm) and Erosion Factor T for Illinois soils is available from the United States Department of Agriculture Natural Resources Conservation Service's published soil surveys at [http://soils.usda.gov/survey/printed\\_surveys/state.asp?state=Illinois&abbr=IL](http://soils.usda.gov/survey/printed_surveys/state.asp?state=Illinois&abbr=IL)

Order at p. 311.

The “dominant critical soil type” should be the soil type considered for the limiting erosion factor for the field, as determined by the RUSLE2 model calculation. *Funk Affidavit* at ¶21. However, the Board’s proposed provision, as cited above, essentially employs the RUSLE2 calculation for the purpose of predicting phosphorus transport from the field, while the RUSLE2 calculation is recognized only as a pointwise soil erosion model. *Id.* It was not the intent of the developers of the RUSLE2 for the model to be used for the purpose used in proposed Section 502.620(f). *Id.* In order for the RUSLE2 calculation to be of reasonable utility in this context, the part of the field that is critical for runoff should be specified, and that part is referred to as the “dominant critical soil type,” determined through guidance from Agronomy Technical Note IL-3, available in Section 1 of the Illinois Natural Resources Conservation Service (NRCS) Field Office Technical Guide. *Id.*

Therefore, the Coalition and Dr. Funk (*Id.* at ¶22) recommend that Section 502.620(f) be revised as follows:

- f) Surface land application may be used when the land slope is no greater than 5% or when the yearly average soil loss, calculated for the dominant critical soil type in the field using Revised Universal Soil Loss Equation, is equal to or less than 5 tons per acre per year or Erosion Factor T, whichever is less, regardless of slope. Injection or incorporation within 24 hours shall be used when the land slope is greater than 5% and the yearly average soil loss, calculated for the dominant critical soil type in the field, using Revised Universal Soil Loss Equation is greater than 5 tons per acre per year or Erosion Factor T, whichever is less.

**F. Section 502.620(g) – Protocols to Land Apply Livestock Waste/Prohibition of Land Application on Slopes Greater than 15%**

The Board's First Notice Opinion and Order includes the following Section 502.620(g):

- g) Land application of livestock waste is prohibited on slopes greater than 15%.

Order at p. 311.

The Illinois NRCS 590 Standard allows land application of livestock waste on slopes greater than 15% if injection or incorporation is used. *Funk Affidavit* at ¶24. The prohibition that appears to be expressed in proposed Section 502.620(g) (prohibiting application of all livestock waste on slopes greater than 15% under any application protocol) is inconsistent with other standards in the state. *Id.*

Moreover, the Coalition suggests the proposed prohibition on land application on slopes greater than 15% is not supported by record evidence and will unduly limit land application that is environmentally protective. Since the provision relies on the RUSLE2 calculation to determine which methods may be used for land application of livestock waste, and since impacts of such land application methods are already embodied in the RUSLE2 model, this provision should be deleted. *Id.* While a more comprehensive set of factors already accepted by the Board via RUSLE2 in other parts of the proposed rules may limit or prohibit such applications, they do so in a context that is more consistent with the intent of RUSLE2. *Id.* Accordingly, the Coalition and Dr. Funk (*Funk Affidavit* at ¶25) request that the Board delete proposed Section 502.620(g).

**G. Section 502.635(b)(2) – Manure and Soil Sampling and Analysis**

The First Notice Opinion and Order includes the following Section 502.635(b)(2):

- b) Manure sampling.

\* \* \*

- 2) The laboratory analysis of livestock waste sample shall include total kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids. The nutrient results shall be reported in mg/kg dry weight basis or mg/l wet weight basis on the laboratory analysis sheet. The results of these analyses are to be used in determining application rates for livestock waste.

Order at p. 321.

Laboratories currently provide farmers with livestock waste sample data in units of lb/ton for dry weight basis and lb/1000 gal for wet weight basis. *Funk Affidavit* at ¶27. Farmers then use that information to determine application rates for livestock waste and to calibrate manure spreaders. *Id.* The proposed Board language would require laboratories to change their current practices and begin providing the farmers with information that is not in its most useful form. *Id.* Accordingly, the Coalition and Dr. Funk (*Id.* at ¶28) recommend that proposed Section 502.635(b)(2) be revised as follows:

- 2) The laboratory analysis of livestock waste sample shall include total kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids. The nutrient results shall be reported in lb/ton or mg/kg dry weight basis or lb/1000 gal or mg/l wet weight basis on the laboratory analysis sheet. The results of these analyses are to be used in determining application rates for livestock waste.

**H. Section 502.620(h) and (j) – Overburden Thickness Recommendations**

The Coalition has also attached the affidavit of David Trainor, as well as a current resume for Mr. Trainor. *See Trainor Affidavit.* Mr. Trainor, now a Vice-President with Shannon & Wilson, is an experienced engineering consultant, specializing in groundwater flow and contaminant transport studies. Mr. Trainor has limited his comment to one major issue of concern for the Coalition, well within his area of expertise: the Board's proposed Section 502.620(h) and (j):

- (h) Liquid livestock waste shall not be applied to land with less than 36 inches of soil covering fractured bedrock, sand or gravel.

\* \* \*

- (j) Livestock waste shall be applied at no greater than 50 percent of the agronomic nitrogen rate determined pursuant to Section 502.625 when there is less than 60 inches of unconsolidated material over bedrock

Order at p. 311.

The Board's approach, which changed the IEPA's proposed soil depths (from 10 inches to 36 inches in subpart (h), and from 20 inches to 60 inches in subpart (j)) is overly conservative. The Board's proposed rule "extends the rule to many areas in Illinois that would be prohibited from land application, with no scientific justification." *Trainor Affidavit* at ¶11. The proposed conditions "will eliminate many areas for potential manure spreading within Illinois, with little environmental benefit." *Id.* at ¶14.

Mr. Trainor's Affidavit explains why the Board's reliance on Mr. Panno's testimony and the *Northeast Wisconsin Task Force Report* (February 2007) ("Report") is not technically sound, resulting in a rule proposal that is inappropriate for land application requirements in Illinois. *Trainor Affidavit* at ¶¶5-19. The Report was specific to a very discrete 5-county area in Northeast Wisconsin. *Id.* at ¶9. None of the Report's recommendations have been incorporated into Wisconsin regulations (*Id.* at ¶10), even though the regulations were promulgated subsequent to the Report and, accordingly, the Wisconsin Department of Natural Resources can be presumed to have been aware of them. Mr. Trainor states that "the proposed depth restrictions will necessitate extensive field studies to assure the limits are not breached" (*Id.* at ¶12), and "are unnecessary to determine the suitability of land spreading areas." *Id.* at ¶21.

Instead, the Board should retain the IEPA's original provisions as they are "protective of the environment." *Id.* at ¶22. Accordingly, the Coalition recommends that the Board move to Second Notice with this section as proposed by the IEPA and set forth below:

(h) Liquid livestock waste shall not be applied to land with less than 10 inches of soil covering fractured bedrock, sand or gravel.

\* \* \*

(j) Livestock waste shall be applied at no greater than 50 percent of the agronomic nitrogen rate determined pursuant to Section 502.625 when there is less than 20 inches of unconsolidated material over bedrock

**X. BOARD QUESTION NO. 1 - PERMIT TIMING ISSUE – SECTION 502.106(d)**

In its First Notice Opinion and Order, the Board seeks additional comment on the IEPA's proposed Section 502.106(d) as set forth in its original proposal. Order at pp. 255-256. That provision required an AFO designated as a CAFO to apply for an NPDES permit within 90 days, based upon a federal requirement that the USEPA deleted in 2012. The Board seeks comment on whether the 90 day requirement should continue to be included in the proposed rule, given the 2012 deletion. As set forth in Section V above with regard to case-by-case designations, the IEPA now proposes to further modify this language. The Coalition agrees with the IEPA's proposed modifications as set forth in IEPA's First Notice Public Comments, which still includes a period of 90 days from the final designation of an AFO as a CAFO in which operators will be able to apply for an NPDES permit.

Overall, a 90 day period in which operators will be able to apply for a permit will provide operators with essential time to comply with the requirements for filing an application. The 90 day period provides operators with the ability to maintain and continue operations at facilities throughout the permit application process. Accordingly, the Coalition strongly supports inclusion of the 90 day period.



Moreover, the Coalition would oppose any attempts to require a producer to cease operations during this time frame, as well as the time period of a pending permit application and any subsequent permit appeal proceeding before the Board. Maintaining operations is imperative because an immediate termination of operations through an application or appeal period would result in substantial hardship to operators who have contractual obligations to fulfill. In addition to not being able to meet contractual obligations, and suffering the consequences of contract breaches, the producer must be able to continue to provide proper care for the livestock housed at the facilities. It is unreasonable to require operators with animals at a facility to halt all operation while livestock is housed at the facility. The livestock must be fed and cared for, and an immediate halt of operations is simply not an option. As such, the Coalition believes the reference to 90 days should not be removed from the Board's proposed rule.

**XI. BOARD QUESTION NO. 4 - CONTRACT INFORMATION IN PERMIT APPLICATION**

The Board also requested comment from the environmental groups regarding its proposal to include, as permit application requirements in Section 502.201(a)(2), information related to contractual relationships between owners or operators or others who might have investment or other business interests in the CAFO operation. Order at p. 256. The IEPA does not seek such information in its proposed rule; thus, the Board should presume that the IEPA does not believe such information is necessary to effectively administer this program and regulate CAFOs. The Coalition offers the following comment, based on its best understanding of the issues and concerns raised by Environmental Groups. If the comments offered herein do not address those issues and concerns, the Coalition may seek the opportunity to offer additional comments in the future when a better understanding is attained.

The Coalition opposes any further permit application requirements beyond those proposed by the IEPA. In particular, the Coalition opposes collecting information about a contractor or integrator as a part of the permit application in Section 502.201(a)(2). As the owner or operator is responsible for the management of the facility, contractual relationships related thereto are not relevant and should not be required to be publicly disclosed. Any information required to be released and reported pursuant to Illinois regulations can be presumed to be subject to public disclosure, absent trade secret protection, which cannot reasonably be asserted here.

In Illinois, the standard regulatory practice in virtually all environmental permitting, with one notable exception, is to require only the identification of the corporate entity that owns and/or operates the facility. The one exception (related to landfill permitting) is unique in that it resulted pursuant to legislation that followed perceived ethical breaches related to a former Governor's interference with environmental permitting and enforcement. As it relates to general NPDES permitting, which should be the relevant category here, if the facility has an NPDES permit, it is the owner or operator who assures the facility meets the requirements of the permit. Collecting information about the contractor or integrator adds no value to the permit application. If a contractual relationship exists, the production practices used at the facility, whether a part of the contractual relationship or not, must continue to comply with the proposed rules and the conditions of the permit. A contractual relationship among an integrator and a farmer does not eliminate the responsibility to comply with the regulations.

Further, contractual relationships between farmers and integrators may change during the life of a facility or the term of a permit. If information is collected on the integrator as a part of the permit application and the contractual relationship changes, this would have to be addressed

in the permit, potentially requiring an unnecessarily burdensome permit amendment (from both the producer and the IEPA's viewpoint). The environmental groups' proposed provision simply requires more cost without corresponding benefit. Accordingly, the Coalition would strongly oppose any additional permit application informational requirements.

## **XII. BOARD QUESTION NO. 5 - PUBLIC ACT 98-484**

On page 256 of the First Notice Opinion and Order, in Question 5, the Board seeks information related to Public Act 98-484 (composting legislation) and its potential impact on the IEPA's proposed rule. The definition of "livestock waste" in the proposed rule includes materials polluted by livestock (Section 501.295). The definition of "manure" in the proposed rule includes bedding, compost, and raw materials or other materials comingled with manure or set aside for disposal (Section 501.312). The Board asks for comments on whether those definitions need to be amended because of Public Act 98-484.

Public Act 98-484, signed into law on August 16, 2013, expands the permit exemption for operating a landscaping waste composting facility, and specifically addresses inclusion of uncontaminated and source separated crop and other plant residue generated, for example, from the harvesting of crops or other customary farm practices such as animal bedding free of manure. The legislation allows for a specific amount of non-landscaping composting material (less than 10%) such as that identified above.

As the Coalition interprets Public Act 98-484, it applies only to landscape waste composting, which is not a subject of this rulemaking. Also, Public Act 98-484 applies only to bedding that is free of manure. Thus, it would not fall within the definitions of "livestock waste" or "manure" included in the IEPA's proposed rule. Accordingly, the Coalition does not believe further amendment is necessary to the proposed rule to accommodate Public Act 98-484.

**XIII. CONCLUSION**

The Coalition appreciates the opportunity to comment and is ready to answer any questions should the Board need clarification. The Coalition does not, however, believe future hearings are necessary but would prefer to provide any clarifying comments in the nature of written submission. The Coalition also appreciates the time and effort of the Board and its staff on this important rulemaking.

Respectfully Submitted,

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# ATTACHMENT A

## Illinois Program Work Plan

### Agreement Between

### Illinois EPA and Region 5, U.S. EPA

The Illinois EPA and Region 5, U.S. EPA work together to implement federally authorized, delegated and/or approved environmental programs within Illinois in a timely, appropriate and effective manner. We establish priorities, negotiate program commitments and work sharing, and evaluate program performance.

Illinois EPA and Region 5 are executing this Agreement as a means to strengthen Illinois' implementation of several federally authorized, delegated and/or approved environmental programs. This work plan contains activities and commitments for both Agencies relating to the Clean Water Act NPDES and Clean Air Act Title V permitting and enforcement programs; the work plan generally spans federal fiscal year (FFY) 2011 and 2012. In the event of a conflict between this work plan and the November 1, 2010, Memorandum of Agreement (MOA) between the U.S. EPA and the Illinois EPA, this document supersedes the MOA.

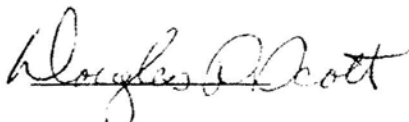
Illinois EPA and Region 5 will monitor progress under this Agreement via existing program to program communications, as well as during our annual joint senior management planning meeting. Work plan elements may be adjusted by mutual agreement. As part of our joint planning for FFY13, Illinois EPA and Region 5 will formally assess the need to negotiate a revised Agreement and work plan for these program areas.

The execution of this Agreement demonstrates our continuing commitment to environmental improvement through a strong partnership and shared responsibility for meeting our regulatory obligations.

Entered into on 2/24/11.

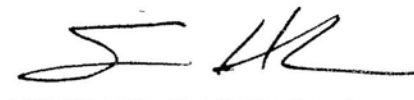
For Illinois EPA:

For Region 5, U.S. EPA



Douglas P. Scott

Director



Susan Hedman

Regional Administrator

**Illinois Program Work Plan  
February 2011  
Water Programs**

In March 2008, the Illinois Citizens for Clean Air & Water (Illinois Citizens) submitted a petition for withdrawal of Illinois' authorized National Pollutant Discharge Elimination System (NPDES) program. Illinois Citizens contend that the Illinois Environmental Protection Agency (Illinois EPA) is not properly administering the NPDES program for concentrated animal feeding operations (CAFOs). In February 2009, Illinois Citizens, joined by the Environmental Integrity Project, provided additional information in a supplementary petition to the U.S. Environmental Protection Agency (U.S. EPA).

U.S. EPA conducted an informal investigation of the petitioners' allegations and issued a report in September 2010<sup>1</sup>. The report discusses U.S. EPA's initial findings for the various program areas, and the actions that Illinois EPA must take to comply with Clean Water Act requirements for authorized state NPDES programs. In particular, Illinois EPA must accomplish the following:

**NPDES Permitting for CAFOs**

- Issue NPDES permits to CAFOs that are required to be permitted under NPDES regulations.
- Develop and maintain a comprehensive inventory of CAFOs and evaluate their regulatory status.
- Establish technical standards for nutrient management by Large CAFOs and revise title 35 of the Illinois Administrative Code, Subtitle E, as necessary to be consistent with the federal CAFO rules.
- Ensure that sufficient resources are maintained to issue or deny permits.

**NPDES Compliance Monitoring and Enforcement for CAFOs**

- Revise the inspection process for livestock and poultry facilities to enable Illinois EPA to determine and track whether inspected facilities are CAFOs that are required to have NPDES permits and whether they are in compliance with NPDES requirements,
- Develop standard operating procedures and properly investigate, track, and respond to citizen complaints reporting potential violations of NPDES requirements.

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<sup>1</sup> See the *Initial Results of an Informal Investigation of the National Pollutant Discharge Elimination System Program for Concentrated Animal Feeding Operations in the State of Illinois (Initial Results)*, available at: <http://epa.gov/region5/illinoiscafo>.

- Take timely and appropriate enforcement action to address noncompliance by CAFOs.
- Require that Illinois EPA enforcement actions address CAFOs failing to apply for an NPDES permit, where a facility has discharged, is discharging, or is designed, constructed, operated, or maintained such that it will discharge.
- Ensure that sufficient resources are maintained for inspections and enforcement of NPDES requirements for CAFOs.

The following outlines the specific actions that Illinois EPA will take to address the initial findings in U.S. EPA's report. Actions that U.S. EPA will take to assist Illinois EPA are provided below as well.

### **NPDES Permitting for Concentrated Animal Feeding Operations**

**Objective 1: All Large CAFOs that discharge or propose to discharge possess NPDES permits.** This objective addresses U.S. EPA's CAFO program review findings related to issuance of NPDES permits to CAFOs as required under the NPDES regulations<sup>2</sup>. It also addresses U.S. EPA's finding related to resources for the CAFO NPDES program<sup>3</sup>.

#### **Approach:**

1. By February 2011, Illinois EPA CAFO permit managers will confer with all Region 5 States, including Minnesota and Michigan, to learn about the systems and staffing those States employ to authorize CAFOs under general permits.
2. Illinois EPA has posted job announcements for three new field positions and three new permit positions to work full time on the NPDES CAFO program. Illinois EPA will use best efforts to fill the positions by August 2011. By August 2011, Illinois EPA will provide a preliminary workload assessment to U.S. EPA. The assessment will identify the number of full-time employees required to implement an effective CAFO permitting, compliance evaluation, and enforcement program for a range of estimates of the regulated universe. Illinois EPA will provide the draft assessment to U.S. EPA for review. Illinois EPA will prepare a final workload assessment in conjunction with production of the statewide CAFO inventory discussed below<sup>4</sup>. The final assessment will identify staff distribution by function and geographic area of responsibility.

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<sup>2</sup> See the *Initial Results*, Section VI. 1, page 35.

<sup>3</sup> See the *Initial Results*, Section VI. 6, page 40.

<sup>4</sup> Compliance Monitoring and Enforcement Objective 1, approach 1.b.

3. Newly-hired Illinois EPA CAFO permit writers will complete the NPDES Permit Writers' Course and the Nutrient Management Plan (NMP) Training for Federal and State Permit Writers, Inspectors, and Technical Assistance Providers within six months after their start date. Existing permit writers will complete the NMP Training within 30 days after it becomes available on-line. By March 2011, U.S. EPA will train existing permit writers on the Clean Water Act and federal regulations prohibiting unpermitted discharges and requiring CAFOs that discharge or propose to discharge to apply for a permit. U.S. EPA will train newly-hired permit writers within six months after their start date.
4. Illinois EPA established a schedule for making a completeness determination and taking preliminary and final action on all permit applications that were pending as of November 30, 2010. In January 2011, Illinois EPA provided a draft of the schedule to U.S. EPA for approval or approval with modification. Subsequent to the approval, Illinois EPA will provide a monthly status report on each application to U.S. EPA. The frequency of such reports may be adjusted after the initial six months by mutual agreement.
5. Illinois EPA will establish a standard operating procedure, with timelines, for making a completeness determination and taking preliminary and final action on permit applications received on and after December 1, 2010. The SOP will provide for final action not more than 180 days after receipt of an application. Under the SOP, Illinois EPA will respond to all incomplete applications with a notice of incompleteness (NOI) delineating the deficiencies in the application and requiring a response within 30 days. Illinois EPA will copy U.S. EPA on all NOIs. The SOP will provide that Illinois EPA will issue a violation notice (VN) under section 31 of the Illinois Environmental Protection Act or request U.S. EPA to issue an information collection order under section 308 of the Clean Water Act for any applicant who has not responded or when Illinois EPA finds that the application is still incomplete after issuance of the NOI. By February 2011, Illinois EPA will provide a draft of the SOP to U.S. EPA for review and approval or approval with modification.
6. By August 2011, Illinois EPA will report on the outcome of a re-investigation of the 45 cases in which Illinois EPA determined that an applicant did not require a permit. The report will include conclusions and, as appropriate, recommendations for further action.
7. U.S. EPA will issue information collection orders to CAFOs that have submitted incomplete applications to Illinois EPA and are not subject to federal enforcement. Illinois EPA will refer such CAFOs to U.S. EPA within 30 days after the deadline Illinois EPA sets in a NOI letter or VN to the applicant. U.S. EPA will issue the information collection orders within 60 days after receipt of a complete referral from Illinois EPA.



8. Within 60 days following publication of amendments to 35 Ill. Adm. Code, subtitle E, Illinois EPA and U.S. EPA will jointly identify permit conditions that Illinois EPA could modify and practices that Illinois EPA could adopt, consistent with the 2003 and 2008 federal rules for CAFOs, to streamline the process for review of NMPs and incorporation of NMP terms into permits. Such methods include, but are not limited to, use of Manure Management Planner or other nutrient management planning software. For any conditions or practices so identified, Illinois EPA will act to modify the conditions or adopt the practices in accordance with the schedule set in Objective 2, approach 7, of this section. Illinois EPA may request support for implementation of the streamlining actions.

**Indicia of Progress:** For applications submitted prior to March 31, 2011, Illinois EPA completes the following by June 30, 2011: issue permits to the applicants, post draft permits or notices of coverage for public comment, or refer the CAFO to the Illinois Attorney General's office for formal enforcement or U.S. EPA for an information collection order. For other applicants, Illinois EPA takes final action as detailed in the SOP contemplated in Approach 5 in this section.

**Objective 2: U.S. EPA approves amendments to 35 Ill. Adm. Code, subtitle E, which (1) reflect the 2003 and 2008 revisions to the federal regulations for CAFOs and (2) require the owners or operators of all Large CAFOs to register with Illinois EPA.** This objective addresses U.S. EPA's CAFO program review findings related to administrative rules for CAFOs as well as technical standards for nutrient management by Large CAFOs<sup>5</sup>.

**Approach:**

1. Illinois EPA provided draft amendments to 35 Ill. Adm. Code, subtitle E, to U.S. EPA for review on December 1, 2010. U.S. EPA provided comments and recommendations on January 14, 2011. Illinois EPA will revise the draft to resolve U.S. EPA's comments and provide the revised draft to U.S. EPA by April 15, 2011. U.S. EPA will provide any remaining comments and recommendations within 15 days of receipt.

2. Within 90 days after receipt of U.S. EPA's comments and recommendations on the revised draft, Illinois EPA will resolve U.S. EPA's comments and file the amendments as a proposed amendatory rulemaking with the Illinois Pollution Control Board. Illinois EPA and U.S. EPA program managers will elevate issues to agency water directors or higher as may be required to resolve U.S. EPA's comments within the 90-day period contemplated here.

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<sup>5</sup> See the *Initial Results*, Section VI. 7, page 41.

3. As appropriate given the content of the draft amendments and other considerations, U.S. EPA will recommend that the Board propose the amendments for the purpose of requesting public comment.
4. If Illinois EPA requests, U.S. EPA will provide support to Illinois EPA as the Board considers the amendments.
5. Within 30 days after publication of amendments to 35 Ill. Adm. Code, subtitle E, Illinois EPA will inform the owner of each Large CAFO in the State's inventory, in writing, about the duty to apply for a permit and the potential consequences for failing to apply. Illinois EPA will provide a draft of the letter to U.S. EPA for review and approval or approval with modification.
6. Within 45 days after the amendatory rulemaking becomes effective, Illinois EPA will submit the final amendments to U.S. EPA for action under 40 C.F.R. §123.62.
7. Within 120 days after the effective date of the amendatory rulemaking, Illinois EPA will revise its permit application forms and formally ask the public to comment on draft modifications to general permit ILA01, as appropriate, based on the amendments and the federal regulations.

**Indicia of Progress:** U.S. EPA finds the amended rules to be consistent with federal regulations. Illinois EPA implements the amended rules upon becoming effective. U.S. EPA acts on the amendments within 90 days of receipt.

### **NPDES Compliance Monitoring and Enforcement for CAFOs**

**Objective 1: To detect, report, and sufficiently document all violations in order to support enforcement of the federal regulations.** This objective addresses U.S. EPA's CAFO program review findings related to developing and maintaining a comprehensive inventory of CAFOs and evaluating their regulatory status, revising the inspection processes to determine and track CAFOs requiring NPDES permits, and developing and implementing SOPs for responding to CAFO-related citizen complaints<sup>6</sup>.

#### **Approach:**

1. Illinois EPA will implement a short-term strategy for evaluating facilities that are likely to be Large CAFOs. The strategy includes the following:
  - a. The creation of an interim NPDES inspection list of 25 likely Large CAFOs using existing lists of known and potential CAFO sites developed by Illinois EPA regional offices,

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<sup>6</sup> See the *Initial Results*, Section VI. 2, pages 36-38.

permit applications, citizen tips and complaints, and information from U.S. EPA, the Illinois Department of Agriculture, and the Illinois Emergency Management Agency. Illinois EPA will provide the list to U.S. EPA, including location data, no later than February 28, 2011.

b. By February 28, 2011, Illinois EPA will develop a plan to create and maintain a comprehensive inventory of Large CAFOs. Under the plan, Illinois EPA will seek commitments whereby the Illinois Department of Agriculture and Illinois Department of Public Health will routinely provide information about potential Large CAFOs to Illinois EPA. Illinois EPA will enter and maintain the inventory in the Integrated Compliance Information System (ICIS). The inventory will include potential CAFO sites identified by Illinois EPA regional offices, permit applications, citizen tips and complaints, U.S. EPA, the Illinois Department of Agriculture, the Illinois Department of Public Health, and the Illinois Emergency Management Agency. The plan may make use of a Geographic Information System-based pilot inventory currently being developed for seven high profile counties. Illinois EPA will provide the plan to U.S. EPA for review and approval or approval with modification.

c. Illinois EPA will develop a CAFO NPDES inspection/evaluation standard operating procedure by February 28, 2011. The SOP will enable the inspector to determine whether CAFOs discharge or propose to discharge. The SOP should include pre-inspection preparation, access procedures, site visit conduct, and inspection timing, sampling, and post inspection procedures including report timing, format, and content (including discharge documentation). Illinois EPA will provide the SOP to U.S. EPA for review and approval or approval with modification.

d. Illinois EPA will organize an initial training for all of its field inspectors and office enforcement staff so they can effectively evaluate CAFOs that are on the interim NPDES inspection list. In January 2011, Illinois EPA provided a proposed agenda to U.S. EPA for approval or approval with modifications. U.S. EPA will review training materials. Training will cover the approved SOP identified above in Paragraph 1(c) and will include pre-inspection preparation, inspection conduct, post-inspection follow-up and documentation, review of compliance data (i.e., overflow reports, discharge monitoring reports, Single Event Violations (SEVs), wet weather significant noncompliance (SNC) determinations, and complaints), new violation processing procedures instituted under this program work plan, and identification of new facilities/discharges. By March 2011, U.S. EPA and Illinois EPA compliance and enforcement staff will conduct this training. The Illinois Attorney General's office staff will be invited to participate.

e. Illinois EPA will perform 25 initial NPDES evaluations by June 1, 2011, to determine whether the facilities discharge or propose to discharge, including during wet weather. Illinois EPA will perform an additional 25 NPDES evaluations by June 1, 2012.

f. At its existing Compliance Group monthly meetings, Illinois EPA will review the findings and documentation of all NPDES evaluations for: a determination as to whether the facility meets the definition of a CAFO, areas of non-compliance, wet weather SNC determinations, violations detected, documentary evidence, and recommendations for correcting

the violations. Beginning in May 2011, Illinois EPA and U.S. EPA will confer monthly to review the findings and documentation of all CAFO noncompliance cases beginning with those initiated in 2009.

2. By June 1, 2011, Illinois EPA will develop and provide to U.S. EPA a long-term CAFO NPDES training curriculum for all staff conducting CAFO NPDES inspections. The curriculum will be completed by all existing CAFO inspectors and their first-line supervisors by August 2011. New staff will complete the curriculum within six months of their start date, and prior to conducting inspections independently. The curriculum will cover all State and federal Clean Water Act-related matters, including CAFO inspector training requirements specified in U.S. EPA internal order 3500.1.

3. By June 2011, Illinois EPA will develop a citizen complaint SOP and database for facilities that are potential CAFOs. The SOP will provide for a written report on investigation results to the complainant. The database will include a field recording the response to the complaint. The SOP will also provide instruction for ensuring 24-hour spill/release response capability which includes on-site presence of an NPDES trained inspector, sampling capability, and equipment to ensure that spills/releases from facilities are documented and assessed to determine if the facilities are CAFOs and require NPDES permits. The SOP will describe laboratory capabilities and services necessary to complete data analysis within prescribed holding times for pollutants of concern. The SOP must specifically address maintenance of those capabilities for those events which occur at night, on weekends, and on holidays.

4. Illinois EPA will develop an annual site-specific CAFO inspection plan which ensures NPDES inspection at a minimum of 20 percent of all permitted CAFOs, consistent with U.S. EPA's National NPDES Compliance Monitoring Strategy. Illinois EPA will provide the plan to U.S. EPA by September 1 of each year for approval.

5. During federal fiscal year 2011, U.S. EPA will conduct oversight inspections of a minimum of five Illinois EPA NPDES CAFO inspections to evaluate the effectiveness of the Illinois EPA inspection program. U.S. EPA inspectors will document their findings, and evaluate the thoroughness and scope of prior Illinois EPA inspections as well as the appropriateness of the record-keeping and reporting associated with the inspections. U.S. EPA will provide copies of these inspection reports to Illinois EPA within 60 days of completion. U.S. EPA will also conduct independent inspections at additional CAFOs with suspected wet weather discharges. U.S. EPA will invite Illinois EPA participation. U.S. EPA will initiate any appropriate follow-up enforcement consistent with existing State/U.S. EPA enforcement communication agreements and the Environmental Performance Partnership Agreement.

**Indicia of Progress:** Illinois EPA creates and maintains in ICIS a consolidated inventory of Large CAFOs. The inventory is easily accessible to all Illinois EPA staff and the public. Illinois EPA conducts NPDES evaluations at 25 potential Large CAFOs by June 1, 2011, and a total of 50 by June 1, 2012, consistent with approved SOPs. Illinois EPA implements approved annual inspection plans for permitted CAFOs consistent with the National Compliance Monitoring Strategy. Illinois EPA implements a satisfactory training program for inspectors. Illinois EPA responds to all citizen complaints and emergency CAFO-related discharges in a timely manner. Illinois EPA identifies and records 100 percent of Single Event Violations and all wet weather Significant Non-Compliance (SNC) in ICIS.

**Objective 2: To properly track and efficiently resolve newly-identified violations.** This objective focuses on newly-identified violators and addresses U.S. EPA's CAFO program review findings related to timely and appropriate enforcement addressing noncompliance by CAFOs and the requirement that all CAFOs that discharge or propose to discharge must apply for an NPDES permit.<sup>7</sup>

**Approach:**

1. Illinois EPA's Bureau of Water will revise its Enforcement Response Guide (ERG) in a manner designed to assure timely and appropriate response to violations detected at CAFOs and ensure a prompt return to compliance<sup>8</sup>. Illinois EPA will submit the revised ERG to U.S. EPA by February 28, 2011. The ERG will require all Large CAFOs to apply for and obtain an NPDES permit where the CAFOs discharge or propose to discharge. The ERG will require all Medium livestock and poultry facilities to apply for and obtain a permit where the facility meets the definition of a CAFO. In addition, the ERG will reflect the wet weather SNC policy in the determination of SNC as well as the appropriate enforcement response. Illinois EPA will submit the ERG to U.S. EPA for review and approval or approval with modifications. Illinois EPA will fully adopt and implement the ERG within 30 days of U.S. EPA approval or approval with modifications. All staff working on livestock and poultry issues will be trained and the revised ERG will be implemented by May 31, 2011.

2. By May 1, 2011, Illinois EPA will issue violation notices (VNs) for all significant noncompliance detected at CAFOs, within 180 days of Illinois EPA becoming aware of the alleged violation, pursuant to Section 31(a) of the Illinois Environmental Protection Act (Act). The VN will contain a recommended remedy and schedule for implementation as appropriate. Compliance Commitment Agreements (CCAs) will be accepted when they bind the respondent to the requirements and timeframes recommended in the VNs. If Illinois EPA is unable to

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<sup>7</sup> See the *Initial Results*, Section VI. 3, pages 38-39.

<sup>8</sup> The ERG should include systems and procedures which assure timely and appropriate response to violations detected at other sources as well.

negotiate an acceptable CCA within 120 days of issuing the VN, Illinois EPA will refer the matter to the Illinois Attorney General's office. For conditions that constitute an imminent or substantial endangerment to human health, the environment or property, Illinois EPA will immediately refer the matter to the Illinois Attorney General's office pursuant to Section 43 of the Act.

3. In cases where the facility does not respond to the VN or proposes a remedy that is less effective than the remedy proposed by Illinois EPA, Illinois EPA will immediately complete the necessary actions under Section 31 to allow Illinois EPA to formally refer the matter to the Illinois Attorney General's office or the State's Attorney of the county in which the alleged violation occurred. Simultaneously, Illinois EPA will refer the case to its existing Enforcement Decision Group for pre-referral consideration of the case.

**Indicia of Progress:** Illinois EPA consistently follows the approved ERG. All CCAs are finalized within 120 days of the VN. No State-lead enforcement cases result in U.S. EPA taking additional action to resolve the same violations.

**Objective 3: To assure that unresolved enforcement matters are properly tracked and efficiently resolved.** This objective focuses on existing matters and addresses U.S. EPA's CAFO program review findings related to timely and appropriate enforcement addressing noncompliance by CAFOs<sup>9</sup>.

**Approach:**

1. Beginning with the first quarter of calendar year 2011, Illinois EPA program and legal managers, Illinois Attorney General's Environmental Division managers, and U.S. EPA program and legal managers will conduct a quarterly docket review of all referred CAFO matters and all open federal enforcement cases. Participants will agree on the lead agency, path to resolution (including target dates), appropriate penalty resolution, and desired results. Illinois EPA will document decisions.

2. By July 2011, U.S. EPA legal staff and management will meet with the Illinois Attorney General's office and Illinois EPA's legal staff and management to discuss legal issues and strategy with respect to CAFO litigation and enforcement, including U.S. EPA penalty policies.

3. Illinois EPA will provide a report by no later than the 15<sup>th</sup> of each month to the U.S. EPA Water Enforcement Branch Chief. The report will reflect the activities completed during the preceding month. The reports will include the following:

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<sup>9</sup> See the *Initial Results*, Section VI. 3, pages 38-39.

- a list and electronic copy of the report for each facility evaluated under Objective 1, approach 1(e), to determine whether the facility is subject to NPDES permitting requirements;
- results of the Compliance Group's determinations under Objective 1, approach 1(f);
- a list of all potential CAFO-related citizen complaints/spills/releases received in the preceding month under Objective 1, approach 3, and the disposition of the cases;
- a list of potential CAFO facilities evaluated by the Enforcement Decision Group and a description of actions taken with regard to those facilities, including copies of any referrals to the Illinois Attorney General's office or written compliance determinations; and
- a list of all potential CAFO NPDES enforcement matters referred to the Illinois Attorney General's office or that are before the Illinois Pollution Control Board and a written summary of the status of the cases.

The frequency of reports may be adjusted after the initial six months by mutual agreement by Illinois EPA and U.S. EPA.

**Indicia of Progress:** All pending matters meet agreed-upon schedules for action and resolution. Decisions affecting case progress are made expeditiously, and barriers are removed. Newly-referred matters placed on the docket progress appropriately. Monthly reports are submitted timely and contain all required information.

## **Illinois Program Work Plan**

**February 2011**

### **CAA Title V Permitting**

The Illinois Environmental Protection Agency (Illinois EPA) implements the requirements of Title V of the Clean Air Act via its Clean Air Act Permit Program (CAAPP), which was approved by U.S. EPA on December 4, 2001 (66 Fed. Reg. 62946). Through regular program interactions, our annual planning process, and periodic program reviews, U.S. EPA and Illinois EPA discuss program progress and implementation barriers. On September 30, 2010, U.S. EPA provided Illinois EPA a Title V program review report which raised several concerns, most notably with the Illinois EPA's permit issuance rates. On January 18, 2011, Illinois EPA issued a response to the report. Since then, Illinois EPA and U.S. EPA have developed this work plan to strengthen the CAAPP, focusing on the following objectives:

- Issue CAAPP permits pursuant to the Clean Air Act and Section 39.5 of the Illinois Environmental Protection Act, 415 ILCS 5/39.5 (Section 39.5) .
- Significantly reduce issuance backlogs of CAAPP permit renewals and federally enforceable state operating permits, as identified in U.S. EPA's Title V Operating Permit System (TOPS) data base (FESOPs).

Both parties have agreed to approaches and commitments designed to address these objectives, as outlined in detail below.

#### **Objective 1: Issue CAAPP permits pursuant to the Clean Air Act and Section 39.5.**

In consideration of the entire permitting sequence, from application to drafting and review, Illinois EPA and U.S. EPA have identified the following approaches to support this objective:

##### **Approach:**

###### Effective use of the application completeness process:

1. Illinois EPA will continue to review each incoming CAAPP application to determine whether the application meets technical requirements and all administrative requirements of Section 39.5.

The Illinois EPA will continue to provide an application shield to only those sources for which the application has been deemed complete in accordance with 39.5(5). Illinois EPA will continue to request additional information as necessary during processing of the application.



2. Illinois EPA will continue to evaluate CAAPP application completeness by utilizing the existing completeness checklist, revising it as necessary. The CAAPP application forms require that an application must include a justification for non-applicability determinations and periodic monitoring requests, and that applicants certify that the information provided is complete and correct. Illinois EPA will review the application forms to assess whether they should be revised to make clear that applicants must include proposed methods for monitoring compliance with emissions limitations; the frequency of the proposed measurements; and, if the measurements are indirect (parametric), an explanation of how the measured values relate to actual emissions from the source. By March 31, 2011, Illinois EPA will provide U.S. EPA with the contents of its completeness checklist, highlighting any revisions. By July 1, 2011, U.S. EPA will assess Illinois EPA's completeness review process and will identify areas for improvement, if any. Illinois EPA will implement any agreed-to revisions as soon as practicable.

Effective and efficient permit drafting:

3. An Illinois EPA manager will continue to review all draft permits and statements of basis before they are publicly noticed to ensure that the CAAPP permits and statements of basis include, at a minimum, the following elements required by the CAAPP: all applicable requirements, periodic monitoring sufficient to assure compliance, compliance assurance monitoring where applicable, compliance schedules where appropriate, origin and authority for all permit terms, and practicably enforceable terms.

4. Effective immediately, U.S. EPA will, at a minimum, review and comment on one draft permit and accompanying Statement of Basis per month, if available. Illinois EPA will work with U.S. EPA to address U.S. EPA's comments.

5. U.S. EPA will support Illinois EPA with training and help with permit-specific issues, and assist with applicability determinations where appropriate. In addition to U.S. EPA's data base of Title V petitions, orders and other guidance documents, which is accessible by states, U.S. EPA commits to provide the following on-going assistance:

a. U.S. EPA will provide all recently-issued responses to petitions to object to Title V permits, policy statements and Title V guidance documents once they are publicly available, and will be available at least once a month to discuss how these policies and orders will impact, and should be implemented by, Illinois EPA. U.S. EPA will assist Illinois EPA, as necessary, to search and extract examples of application of guidance. Although many such permit decisions and other documents may be case-specific, U.S. EPA will provide Illinois EPA examples of acceptable periodic monitoring for common emission units. U.S. EPA will provide Illinois EPA with any tools it develops that will aid in the issuance of permits that meet the most up-to-date guidance.

b. As detailed elsewhere in this document, U.S. EPA will provide permit-specific assistance on the development of statements of basis and responses to comments. U.S. EPA will

also assist or conduct, where appropriate, MACT and NSPS applicability reviews and single source determinations. Typically, U.S. EPA will provide these reviews and determinations within 60 days of a request by Illinois EPA.

6. Illinois EPA will continue to offer training to ensure that its permit analysts understand and are equipped to fully implement the requirements of the Clean Air Act, Section 39.5, and U.S. EPA's guidance and policies, as appropriate. This includes the on-going productivity initiative discussed in the April 2010 Title V program review<sup>10</sup>, regular CAAPP Unit meetings to discuss recent U.S. EPA comments on draft and proposed permits, applicability determinations, and responses to petitions to object to Title V permits; informal training on topics such as effective permit writing (e.g., periodic monitoring justification, writing techniques, etc.) and permit-specific issues; and formal training that U.S. EPA can provide or help Illinois EPA develop. Illinois EPA will have the Construction Unit manager and appropriate staff also participate when appropriate. U.S. EPA will be available to attend these meetings and answer permit-specific questions in Springfield at least monthly. Additionally, U.S. EPA will interact directly with permit analysts concerning draft permits and Statements of Basis.

Addressing and documenting responses to public comments:

7. By April 2011, U.S. EPA and Illinois EPA will re-open and revise the existing Title V implementation memorandum of understanding (MOU) to provide that Illinois EPA will make available to U.S. EPA its draft response to comments identified by U.S. EPA prior to the start of U.S. EPA's 45-day period to review a proposed permit. U.S. EPA's 45-day review will occur sequentially under this revised process, rather than being concurrent with the public review as per the existing MOU. This provision will not prevent U.S. EPA from waiving any portion of the 45-day review period remaining after it has completed its review. U.S. EPA's 45-day review period will begin when Illinois EPA provides U.S. EPA with the requested draft response to those comments identified by U.S. EPA and a proposed permit revised as necessary to address public comments. If requested by Illinois EPA, U.S. EPA will assist Illinois EPA in addressing comments prior to the start of the 45-day review period. Illinois EPA will continue to respond to all significant comments in the process of issuing CAAPP permits.

**Indicia of Progress:** U.S. EPA will see more thorough documentation of decision-making (e.g., Statements of Basis, Responses to Comments), resulting in fewer objections on this basis.

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<sup>10</sup> See September 30, 2010 program evaluation report, page 16

**Objective 2: Significantly reduce permit issuance backlogs of CAAPP renewals and FESOPs.**

Illinois EPA and U.S. EPA agree that there is a large backlog of applications that Illinois EPA must process. Illinois EPA and U.S. EPA have identified the following approaches to reduce this backlog:

**Approach:**

1. As soon as practicable, but no later than July 1, 2011, Illinois EPA will temporarily assign two to five additional FTE to process CAAPP permit applications, to help replace staff reductions that have occurred over the past several years.
2. Illinois EPA senior management will continue to reinforce to staff, in writing, that issuing CAAPP operating permits is a high priority. Illinois EPA senior management will take every opportunity to identify issuance of CAAPP permits as a priority, such as through e-mails, staff meetings, presentations, and the identification of priorities in performance objectives.
3. By March 2011, Illinois EPA will clearly lay out for appropriate Illinois EPA staff expectations for CAAPP permit issuance. Illinois EPA senior management will develop and post in the office visual or virtual displays of the targets and expectations along with a measure of Illinois EPA's success in meeting the targets.
4. By June 2011, Illinois EPA will identify and implement a strategy to increase the permit issuance rate of FESOPs.

**Indicia of Progress:** The following table summarizes Illinois EPA's and U.S. EPA's permitting goals for FFY 2011 and 2012 for the current CAAP backlog. Thereafter, Illinois EPA will continue to public notice and issue CAAPP permits from the backlog.

<b>Date</b>	<b>Cumulative Total of Draft Backlogged Permits Sent to Public Notice</b>	<b>Targeted Cumulative Total of Final Backlogged Permits Issued<sup>11</sup></b>
May 2011	6	
November 2011	10	6
May 2012	24	10
November 2012	48	24

<sup>11</sup> The word "targeted" is used in relation to final permit issuance in recognition that third parties can impact "final" permit issuance and/or effective dates through petitions to object filed with the Administrator and permit appeals filed with the State by permittees.

**Illinois Program Work Plan  
February 2011  
Air Enforcement**

Illinois EPA and U.S. EPA collectively ensure that facilities comply with applicable provisions of the CAA and associated State laws, permits and requirements. Illinois EPA's implementation of its CAA enforcement program is monitored by U.S. EPA through data input to U.S. EPA's Air Facility System (AFS), regular discussions of ongoing case status, a joint annual planning process, and periodic audits under U.S. EPA's State Review Framework. Through these mechanisms, program progress is tracked, and barriers to further progress are addressed. Illinois EPA and U.S. EPA have agreed through this work plan to work together to strengthen the State's enforcement program, focusing on the following three objectives:

- To detect all federally reportable violations and document them in order to support formal enforcement.
- To track and efficiently resolve newly identified violations.
- To assure that existing, unresolved enforcement matters are tracked and efficiently processed.

Both parties have agreed to approaches and commitments designed to address these objectives, as outlined in detail below.

**Objective 1: To detect all federally reportable violations and document them in order to support formal enforcement.**

**Approach:**

1. Illinois EPA will continue to organize training for its field inspectors and office compliance staff. Training will cover pre-inspection preparation, inspection conduct, post-inspection follow-up and documentation, review of compliance data (i.e., stack tests, continuous emission monitoring, continuous opacity monitoring reports, deviation reports). By March 2011, Illinois EPA will provide U.S. EPA a summary of existing and proposed training, including agendas and materials, to be offered to Illinois EPA Bureau of Air (BOA) field inspectors and compliance staff during 2011. U.S. EPA will provide feedback as appropriate. A similar process will occur for any new training program topics. U.S. EPA will review training opportunities and from time to time, but at least quarterly, provide Illinois EPA's BOA Training Coordinator with a list of federally-sponsored training opportunities relevant to field inspections (inspection quality, inspection conduct, post-inspection follow-up, etc.), NSR and PSD compliance, specific source sector compliance, compliance with recent NESHAPs or NSPS, and other federal regulations or

requirements relevant to Illinois EPA's Compliance Monitoring Strategy. U.S. EPA will also share other non-federal training opportunities and materials it finds to be effective.

2. From time to time, U.S. EPA Headquarters develops specific source-sector enforcement initiatives that focus on PSD/NSR noncompliance. U. S. EPA has Section 114 authority that allows it to gather information or documents from the targeted source-sector that may be necessary to assess whether a PSD/NSR violation exists. When Illinois EPA has identified a modification at a source that may be a major modification, and cannot support an enforcement action with information available, Illinois EPA will provide to U.S. EPA the inspection report and any other documentation that may support a PSD/NSR noncompliance inquiry. U. S. EPA will then use its Section 114 authority to gather additional evidence relevant to the PSD/NSR inquiry.

3. Illinois EPA Bureau of Air (BOA) staff has developed a new Compliance Monitoring Report (CMR), which is currently being field-tested, and once perfected, will be used for each BOA inspection. The final CMR will standardize the pre-inspection, inspection, and post-inspection practices, and will include checklists to ensure that the field inspector has identified the necessary elements for each type of inspection (e.g., full compliance evaluation (FCE), partial compliance evaluation (PCE), complaint response, etc.). A draft of the CMR has been field tested on two FCE inspections. The comments on the initial draft of the CMR are currently being reviewed and the initial draft CMR is being revised. By March 15, 2011, the revised draft CMR will be field-tested by one or more inspectors in each regional field office. By April 15, 2011, comments on the draft CMR by the regional field staff involved in the next phase of testing will be received and any necessary changes to the draft CMR will be made. By May 1, 2011, the proposed CMR will be sent to U.S. EPA ARD program and legal managers for review and comment. U.S. EPA will provide comments to Illinois EPA BOA staff on the proposed CMR by June 1, 2011. In July, August and September 2011, Illinois EPA BOA will conduct training on the final CMR to ensure that each field inspector and compliance engineer is familiar with the CMR and its requirements. Beginning October 1, 2011, the CMR will be used for each field inspection.

4. By March 15, 2011, Illinois EPA will compose three (3) regional Meeting in Region (MIR) committees, consisting of Illinois EPA's field staff in that region, and compliance and legal staff assigned to that region, as well as the FOS Section Manager. Each of the committees will consult with their assigned field inspectors on scheduled inspections for the upcoming quarter to review methods of evaluation, applicable regulatory requirements, and necessary documentation specific to that investigation. Post inspection, each of the three regional MIR committees will meet with each of their assigned inspectors to review their findings and documentation, and identify areas of non-compliance and possible remedies.

**Indicia of Progress:** Documentation supporting violations is sufficient to ultimately resolve most of the violations through negotiation or litigation. The number of cases that the Compliance Decision Group (CDG) (see below) refers back to technical staff due to insufficient information will be tracked to measure progress.

**Objective 2: To track and efficiently resolve newly identified violations.**

**Approach:**

1. Illinois EPA will continue to use a Compliance Decision Group (CDG) composed of the BOA Permit Section Manager, the Field Operations Section (FOS) Manager, the Compliance Section Manager and the Manager of the Division of Legal Counsel-Air Enforcement. The CDG will analyze each violation detected during the previous month, detailing supporting evidence, desired corrective action, and expected environmental benefits. The CDG will prioritize ongoing or recurring violations for expedited Violation Notices (VNs), preliminarily identify violations that may require formal resolution, and direct insufficiently supported cases back to the technical staff for follow-up. Decisions will be documented and maintained.
2. Beginning in March 2011, where the appropriate technical remedy is known, the Illinois EPA will issue VNs containing a recommended technical remedy and schedule for implementation. Where the appropriate technical remedy is not known, Illinois EPA will generally describe a remedy(s) believed by Illinois EPA to be applicable to the particular case and a schedule for resolution.
3. Non-responses to VNs or responses without a commitment to a technical remedy that is at least as effective as that proposed by Illinois EPA will be immediately referred to the CDG.
4. The CDG will meet monthly to dispose of matters referred to them. Most matters referred to the CDG following step 3 above where High Priority Violators (HPVs) have been identified will be referred to the Illinois Attorney General's office unless that office declines. If the Attorney General's office declines referral, the CDG can consider other options for resolution. Decisions of the CDG will be documented and maintained.
5. Beginning in March 2011, Illinois EPA legal enforcement staff will utilize its regular calls with the Illinois Attorney General's office to discuss the status of existing active cases, including information needs, affirm agreement on settlement terms and path to resolution, etc., as well as review the backlogged cases for next opportunities and necessary actions.

**Indicia of Progress:** No extended periods of negotiation for Compliance Commitment Agreements where HPVs have been identified in a VN. Time frames between case milestones

will be tracked to monitor progress. A twenty-five (25%) percent increase in HPV cases referred to the Illinois Attorney General's Office over FFY 2010 levels in both FFY 2011 and FFY 2012.

**Objective 3: To assure that existing, unresolved enforcement matters are tracked and efficiently processed.**

**Approach:**

Beginning in March 2011, Illinois EPA BOA program and legal managers and U.S. EPA ARD program and legal managers will conduct a semi-annual review of cases where a HPV has been identified in a VN (prior to referral), or in a referral to the AGO. Participants will review the status of each unresolved, state-initiated, HPV (post VN); agree upon the lead agency, path to resolution (including target dates), and appropriate penalty resolution; and affirm desired results. Decisions will be documented.

**Indicia of Progress:** All pending matters will be closely monitored through ultimate resolution, decisions affecting case progress will be expeditiously made, and barriers will be identified and a path to address the barrier will be agreed upon.

## ATTACHMENT B

### Illinois Program Work Plan for 2013

#### Agreement Between

#### Illinois Environmental Protection Agency and Region 5, U.S. Environmental Protection Agency

Pursuant to federal assistance statutes, the Illinois Environmental Protection Agency (Illinois EPA) and Region 5, U.S. Environmental Protection Agency (EPA Region 5) work together to implement authorized, delegated, and/or approved environmental programs within the State of Illinois in a timely, appropriate, and effective manner. Together we establish priorities, negotiate program commitments and work sharing, and evaluate program performance.

Illinois EPA and EPA Region 5 are replacing the previous Work Plan Agreement as a means to continue to strengthen Illinois' implementation of several federally authorized, delegated, and/or approved environmental programs. The Work Plan for 2013 includes activities and commitments for both Agencies relating to the Clean Water Act National Pollutant Discharge Elimination System (NPDES) and Clean Air Act Title V permitting program. This Work Plan Agreement extends the previous 2011/2012 federal fiscal year work plan agreement to December 31, 2013. In the event of a conflict between this Work Plan Agreement and the November 1, 2010, Memorandum of Agreement (MOA) between the EPA Region 5 and the Illinois EPA, this document supersedes the MOA.

Illinois EPA and EPA Region 5 will monitor progress under the Work Plan Agreement via existing program-to-program communications, as well as during the annual joint senior management planning meeting. The Work Plan may be adjusted by mutual agreement. As part of our joint planning for Federal Fiscal Year 2014/2015, Illinois EPA and EPA Region 5 will formally assess the need to negotiate a revised Work Plan for the Clean Water Act NPDES and Clean Air Act Title V permitting programs.

The execution of this Agreement demonstrates our continuing commitment to environmental improvement through a strong partnership and shared responsibility for meeting our regulatory obligations.

Entered into on 2-4-13.

For Illinois EPA:



John J. Kim, Interim Director  
Illinois Environmental Protection Agency

For EPA Region 5:



Susan Hedman  
Regional Administrator



**Illinois Program Work Plan  
For 2013  
Water Programs**

In March 2008, the Illinois Citizens for Clean Air & Water (Illinois Citizens) submitted a petition to the U.S. Environmental Protection Agency (U.S. EPA) requesting the withdrawal of Illinois' authorized Clean Water Act National Pollutant Discharge Elimination System (NPDES) program. Illinois Citizens contend that the Illinois Environmental Protection Agency (Illinois EPA) was not properly administering the NPDES program for concentrated animal feeding operations (CAFOs). In February 2009, Illinois Citizens, joined by the Environmental Integrity Project, provided additional information in a supplementary petition to U.S. EPA.

U.S. EPA conducted an informal investigation of the petitioners' allegations and issued a report in September 2010.<sup>1</sup> The report discusses U.S. EPA's initial findings for the various program areas, and the actions that Illinois EPA must take to comply with Clean Water Act requirements for authorized state NPDES programs. In particular, Illinois EPA must accomplish the following:

**NPDES Permitting for CAFOs**

- Issue NPDES permits to CAFOs that are required to be permitted under NPDES regulations.
- Develop and maintain a comprehensive inventory of CAFOs and evaluate their regulatory status.
- Establish technical standards for nutrient management by Large CAFOs and revise title 35 of the Illinois Administrative Code, Subtitle E, as necessary to be consistent with the federal CAFO rules.
- Ensure that sufficient resources are maintained to issue or deny permits.

**NPDES Compliance Monitoring and Enforcement for CAFOs**

- Revise the inspection process for livestock and poultry facilities to enable Illinois EPA to determine and track whether inspected facilities are CAFOs that are required to have NPDES permits and whether they are in compliance with NPDES requirements.
- Develop standard operating procedures and properly investigate, track, and respond to citizen complaints reporting potential violations of NPDES requirements.
- Take timely and appropriate enforcement action to address noncompliance by CAFOs.
- Require that Illinois EPA enforcement actions address CAFOs failing to apply for an NPDES permit, where a facility has discharged, is discharging, or is designed, constructed, operated, or maintained such that it will discharge.
- Ensure that sufficient resources are maintained for inspections and enforcement of NPDES requirements for CAFOs.

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<sup>1</sup>See the "Initial Results of an Informal Investigation of the National Pollutant Discharge Elimination System Program for Concentrated Animal Feeding Operations in the State of Illinois" (Initial Results), available at: <http://epa.gov/region5/illinoiscafo>.

### **Progress to date and plan forward**

- Since February 2011, Illinois EPA has hired and trained six new CAFO staff; made progress on issuing, reinvestigating and tracking CAFO permits; has an inventory of large CAFOs under development; has made progress on conducting and tracking CAFO inspections; has issued violation notices and referred actions to the Illinois Attorney General Office; has submitted proposed amendments to Title 35 of the Illinois Administrative Code to the Illinois Pollution Control Board; and has developed and implemented standard operating procedures and its Enforcement Response Guidelines related to inspections and enforcement.
- Both U.S. EPA and Illinois EPA agree to extend the Work Plan through 2013 to continue the progress of the February 2011 Work Plan, including completing the CAFO inventory and a related workload assessment, finalizing four Illinois EPA standard operating procedures concerning CAFOs, and amending Title 35 of the Illinois Administrative Code, Subtitle E, Parts 501, 502, and 504.

The following outlines specific actions that Illinois EPA will continue to take to address the initial findings in U.S. EPA's report. Actions that U.S. EPA will take to assist Illinois EPA are provided below as well.

### **NPDES Permitting for Concentrated Animal Feeding Operations**

**Objective 1: All Large CAFOs that discharge are in compliance with NPDES permits.** This objective addresses U.S. EPA's CAFO program review findings related to issuance of NPDES permits to CAFOs as required under the NPDES regulations.<sup>2</sup> It also addresses U.S. EPA's finding related to resources for the CAFO NPDES program.<sup>3</sup>

#### **Approach**

1. By February 28, 2013, Illinois EPA will report on the status of the 13 cases identified in the August 31, 2011, re-investigation report as either needing additional investigation or considering withdrawing permit applications. The report will include conclusions and, as appropriate, recommendations for further action.
2. By September 30, 2013, Illinois EPA will prepare a final workload assessment that will identify the number of full time employees required to implement an effective CAFO permitting, compliance evaluation, and enforcement program taking into account the CAFO universe identified in the CAFO inventory discussed below.<sup>4</sup> The final assessment will identify staff distribution by function and geographic area of responsibility.

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<sup>2</sup>*Ibid*, Section VI. 1, p. 35.

<sup>3</sup>*Ibid*, Section VI. 6, p. 40.

<sup>4</sup>Compliance Monitoring and Enforcement Objective 1, Approach 1.b.

3. Illinois EPA will continue to provide U.S. EPA with a bi-monthly status report on each CAFO permit application. Any future changes to the current version of the status report shall be mutually agreed upon by Illinois EPA and U.S. EPA.

4. Illinois EPA will establish a standard operating procedure (SOP), with timelines, for making a completeness determination and taking preliminary and final action on permit applications. The SOP will provide for final action not more than 180 days after receipt of a complete application. Under the SOP, Illinois EPA will respond to all incomplete applications with a notice of incompleteness (NOI) delineating the deficiencies in the application and requiring a response within 30 days. Illinois EPA will copy U.S. EPA on all NOIs. The SOP will provide that Illinois EPA will issue a violation notice (VN) under Section 31 of the Illinois Environmental Protection Act or request U.S. EPA to issue an information collection order under Section 308 of the Clean Water Act for any applicant who has not responded or when Illinois EPA finds that the application is still incomplete after appropriate use of the NOI process. By February 28, 2013, Illinois EPA will provide a final SOP to U.S. EPA for review and approval or approval with modification. The final shall consider comments and recommendations from U.S. EPA on previous draft versions of the SOP.

5. U.S. EPA will issue information collection orders to CAFOs that have submitted incomplete applications to Illinois EPA and are not subject to federal enforcement. Illinois EPA will refer such CAFOs to U.S. EPA within 30 days after the deadline Illinois EPA sets in a final NOI letter or VN to the applicant. U.S. EPA will issue the information collection orders within 60 days after receipt of a complete referral from Illinois EPA.

6. Within 60 days following publication of amendments to 35 Ill. Adm. Code, subtitle E, Illinois EPA and U.S. EPA will jointly identify permit conditions that Illinois EPA could modify and practices that Illinois EPA could adopt, consistent with the 2003 and 2008 federal rules for CAFOs, to streamline the process for review of Nutrient Management Plans (NMPs) and incorporation of NMP terms into permits. Such methods include, but are not limited to, use of Manure Management Planner or other nutrient management planning software. For any conditions or practices so identified, Illinois EPA will act to modify the conditions or adopt the practices in accordance with the schedule set in Objective 2, Approach 4, of this section. Illinois EPA may request support for implementation of the streamlining actions.

**Indicia of Progress:** For applications submitted prior to March 31, 2011, Illinois EPA completes the following by December 31, 2012, issue permits to the applicants, post draft permits or notices of coverage for public comment, or refers the CAFO to the Illinois Attorney General's office for formal enforcement or U.S. EPA for an information collection order. For other applicants, Illinois EPA takes final action as detailed in the SOP contemplated in Approach 4 in this section.

**Objective 2: U.S. EPA approves amendments to 35 Ill. Adm. Code, subtitle E, which reflect the 2003 and 2008 revisions to the federal regulations for CAFOs.** This objective addresses U.S. EPA's CAFO program review findings related to administrative rules for CAFOs as well as technical standards for nutrient management by Large CAFOs.<sup>5</sup>

### **Approach**

1. As appropriate given the content of the draft amendments and other considerations, U.S. EPA will recommend that the Illinois Pollution Control Board (the Board) propose the amendments for the purpose of requesting public comment.
2. Within 30 days after publication of amendments to 35 Ill. Adm. Code, subtitle E, Illinois EPA will inform the owner of each Large CAFO in the State's inventory, in writing, about the unpermitted discharge prohibition and the duty to apply for a permit, and the potential consequences for discharge without a permit. Illinois EPA will provide a draft of the letter to U.S. EPA for review and approval or approval with modification.
3. Within 45 days after the amendatory rulemaking becomes effective, Illinois EPA will submit the final amendments to U.S. EPA for action under 40 C.F.R. §123.62.
4. Within 120 days after the effective date of the amendatory rulemaking, Illinois EPA will revise its permit application forms and formally ask the public to comment on draft modifications to general permit ILA01, as appropriate, based on the amendments and the federal regulations.

**Indicia of Progress:** U.S. EPA finds the amended rules to be consistent with federal regulations. Illinois EPA implements the amended rules upon becoming effective. U.S. EPA acts on the amendments within 90 days of receipt.

### **NPDES Compliance Monitoring and Enforcement for CAFOs**

**Objective 1: To detect, report, and sufficiently document all violations in order to support enforcement of the federal regulations.** This objective addresses U.S. EPA's CAFO program review findings related to developing and maintaining a comprehensive inventory of CAFOs and evaluating their regulatory status, revising the inspection processes to determine and track CAFOs requiring NPDES permits, and developing and implementing SOPs for responding to CAFO-related citizen complaints.<sup>6</sup>

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<sup>5</sup>*Initial Results*, Section VI. 7, p. 41.

<sup>6</sup>*Ibid*, Section VI. 2, pp. 36-38.

## Approach

1. Illinois EPA will implement a short-term strategy for evaluating facilities that are likely to be Large CAFOs. The strategy includes the following:

- a. Illinois EPA will provide the NPDES inspection list identifying 25 facilities including location data to U.S. EPA, no later than February 28, 2013.
- b. By February 28, 2013, Illinois EPA will provide an inventory to U.S. EPA that lists Large CAFOs and any other permitted CAFOs as a basis for the final Workload Assessment. Illinois EPA will maintain and regularly update its CAFO inventory through a process of confirming sizes of additional livestock facilities. Illinois EPA will make the inventory publicly accessible and send updates to U.S. EPA at least twice a year. By September 30, 2013, Illinois EPA will provide an update to its CAFO inventory that confirms whether additional livestock facilities are Large CAFOs. Illinois EPA will have a process in place to get regular updates about potential Large CAFOs from Illinois Department of Agriculture and Illinois Department of Public Health. The inventory will include all confirmed Large and permitted CAFO sites identified by Illinois EPA regional offices, permit applications, citizen tips and complaints, U.S. EPA, the Illinois Department of Agriculture, the Illinois Department of Public Health, and the Illinois Emergency Management Agency. The inventory may make use of a Geographic Information System-based pilot inventory currently being developed for seven high profile Illinois counties.
- c. Following U.S. EPA's 2012 oversight inspections, U.S. EPA will provide its comments on the CAFO NPDES inspection/evaluation standard operating procedure by January 15, 2013. Illinois EPA will address U.S. EPA's comments and revise its CAFO NPDES inspection/evaluation standard operating procedure as necessary and will provide the updated SOP to U.S. EPA for review and approval or approval with modification by February 28, 2013.
- d. Illinois EPA will perform 25 NPDES evaluations by June 1, 2013, to determine whether the facilities discharge, with at least 12 of these evaluations completed during or after precipitation events.
- e. At its existing Compliance Group monthly meetings, Illinois EPA will review the findings and documentation of all NPDES evaluations for: a determination as to whether the facility meets the definition of a CAFO, areas of non-compliance, wet weather Significant Non-compliance (SNC) determinations, violations detected, documentary evidence, and recommendations for correcting the violations. Illinois EPA and U.S. EPA will confer quarterly to review the findings and documentation of all CAFO noncompliance cases beginning with those initiated in 2009.

2. By February 28, 2013, Illinois EPA will confirm that CAFO inspectors and their first-line supervisors have completed Illinois EPA's training curriculum. Newly hired Illinois EPA CAFO inspectors will be trained within 6 months of starting and before independently leading a CAFO inspection.

3. By February 28, 2013, Illinois EPA will address U.S. EPA's comments and revise its citizen complaint SOP as necessary and will provide the SOP to U.S. EPA for review and approval or approval with modification. The SOP is to provide for a written report on investigation results to the complainant. The database is to include a field recording the response to the complaint. The SOP will also provide instruction for ensuring 24-hour spill/release response capability which includes on-site presence of an NPDES trained inspector, sampling capability, and equipment to ensure that spills/releases from facilities are documented and assessed to determine if the facilities are CAFOs and require NPDES permits. The SOP will describe laboratory capabilities and services necessary to complete data analysis within prescribed holding times for pollutants of concern. The SOP must specifically address maintenance of those capabilities for those events which occur at night, on weekends, and on holidays.

4. Illinois EPA will develop an annual site-specific CAFO inspection plan which ensures NPDES inspection at a minimum of 20 percent of all permitted CAFOs, consistent with U.S. EPA's National NPDES Compliance Monitoring Strategy. Illinois EPA will provide the plan to U.S. EPA by September 30 of each year.

5. During Federal Fiscal Year 2013, U.S. EPA will conduct oversight inspections of a minimum of three Illinois EPA NPDES CAFO inspections to evaluate the effectiveness of the Illinois EPA inspection program. U.S. EPA inspectors will document their findings, and evaluate the thoroughness and scope of prior Illinois EPA inspections as well as the appropriateness of the record-keeping and reporting associated with the inspections. U.S. EPA will provide copies of these inspection reports to Illinois EPA within 60 days of completion. U.S. EPA will also conduct independent inspections at additional CAFOs with suspected wet weather discharges. U.S. EPA will invite Illinois EPA participation. U.S. EPA will initiate any appropriate follow-up enforcement consistent with existing State/U.S. EPA enforcement communication agreements and the Environmental Performance Partnership Agreement.

**Indicia of Progress:** Illinois EPA creates and maintains a consolidated inventory of Large CAFOs and other permitted CAFOs. The inventory is easily accessible to all Illinois EPA staff and the public. Illinois EPA conducts NPDES evaluations at 25 potential Large CAFOs by June 1, 2013, consistent with approved SOPs. Illinois EPA will report all CAFO inspections it conducted to U.S. EPA annually by July 31. Illinois EPA implements approved annual inspection plans for permitted CAFOs consistent with the National Compliance Monitoring Strategy. Illinois EPA implements a satisfactory training program for inspectors. Illinois EPA responds to all citizen complaints and emergency CAFO-related discharges in a timely manner. Illinois EPA identifies and records 100 percent of Single Event Violations and all wet weather SNC in the Integrated Compliance Information System (ICIS).

**Objective 2: To properly track and efficiently resolve newly-identified violations.** This objective focuses on newly-identified violators and addresses U.S. EPA's CAFO program review findings related to timely and appropriate enforcement addressing noncompliance by CAFOs and the requirement that all CAFOs that discharge must apply for an NPDES permit.<sup>7</sup>

### **Approach**

1. Illinois EPA's Bureau of Water will revise its Enforcement Response Guide (ERG) in a manner designed to assure timely and appropriate response to violations detected at CAFOs and ensure a prompt return to compliance.<sup>8</sup> Illinois EPA will submit the revised ERG to U.S. EPA by February 28, 2013. The ERG will require all Large CAFOs to apply for and obtain an NPDES permit where the CAFOs discharge. The ERG will require all medium livestock and poultry facilities to apply for and obtain a permit where the facility meets the definition of a CAFO. In addition, the ERG will reflect the wet weather SNC policy in the determination of SNC, as well as the appropriate enforcement response. Illinois EPA will submit the ERG to U.S. EPA for review and approval or approval with modifications. Illinois EPA will fully adopt and implement the ERG within 30 days of U.S. EPA approval or approval with modifications.

2. Illinois EPA will issue VNs for all significant noncompliance detected at CAFOs, within 180 days of Illinois EPA becoming aware of the alleged violation, pursuant to Section 31(a) of the Illinois Environmental Protection Act (Act). The VN will contain a recommended remedy and schedule for implementation as appropriate. Compliance Commitment Agreements (CCAs) will be accepted when they bind the respondent to the requirements and timeframes recommended in the VNs. If Illinois EPA is unable to negotiate an acceptable CCA within 120 days of issuing the VN, Illinois EPA will refer the matter to the Illinois Attorney General's office. For conditions that constitute an imminent or substantial endangerment to human health, the environment or property, Illinois EPA will immediately refer the matter to the Illinois Attorney General's office pursuant to Section 43 of the Act.

3. In cases where the facility does not respond to the VN or proposes a remedy that is less effective than the remedy proposed by Illinois EPA, Illinois EPA will immediately complete the necessary actions under Section 31 to allow Illinois EPA to formally refer the matter to the Illinois Attorney General's office or the State's Attorney of the county in which the alleged violation occurred. Simultaneously, Illinois EPA will refer the case to its existing Enforcement Decision Group for pre-referral consideration of the case.

**Indicia of Progress:** Illinois EPA consistently follows the approved ERG. All CCAs are finalized within 120 days of the VN. No State-lead enforcement cases result in U.S. EPA taking additional action to resolve the same violations.

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<sup>7</sup>*Ibid*, Section VI. 3, pp. 38-39.

<sup>8</sup>The ERG should include systems and procedures which assure timely and appropriate response to violations detected at other sources, as well.

**Objective 3: To assure that unresolved enforcement matters are properly tracked and efficiently resolved.** This objective focuses on existing matters and addresses U.S. EPA's CAFO program review findings related to timely and appropriate enforcement addressing noncompliance by CAFOs.<sup>9</sup>

### **Approach**

1. Illinois EPA program and legal managers, Illinois Attorney General's Environmental Division managers, and U.S. EPA program and legal managers will continue to conduct a quarterly docket review of all referred CAFO matters and all open federal enforcement cases. Participants will agree on the lead agency, path to resolution (including target dates), appropriate penalty resolution, and desired results. Illinois EPA will document decisions.

2. Illinois EPA will provide a report by no later than the 15<sup>th</sup> of every odd numbered month to the U.S. EPA Water Enforcement Branch Chief. The report will reflect the activities completed during the preceding two months. The reports will include the following:

- a list and electronic copy of the report for each facility evaluated under Objective 1, approach 1(e), to determine whether the facility is subject to NPDES permitting requirements;
- results of the Compliance Group's determinations under Objective 1, approach 1(f);
- a list of all potential CAFO-related citizen complaints/spills/releases received in the preceding month under Objective 1, approach 3, and the disposition of the cases;
- a list of potential CAFO facilities evaluated by the Enforcement Decision Group and a description of actions taken with regard to those facilities, including copies of any referrals to the Illinois Attorney General's office or written compliance determinations; and
- a list of all potential CAFO NPDES enforcement matters referred to the Illinois Attorney General's office or that are before the Board and a written summary of the status of the cases.

The frequency of reports may be adjusted after the initial six months by mutual agreement by Illinois EPA and U.S. EPA.

**Indicia of Progress:** All pending matters meet agreed-upon schedules for action and resolution. Decisions affecting case progress are made expeditiously and barriers to progress are removed. Newly-referred matters placed on the docket progress appropriately. Monthly reports are submitted timely and contain all required information.

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<sup>9</sup>*Initial Results*, Section VI. 3, pp. 38-39.



**Illinois Program Work Plan  
For 2013  
Clean Air Act Title V Permitting**

The Illinois Environmental Protection Agency (Illinois EPA) implements the requirements of Title V of the Clean Air Act via its Clean Air Act Permit Program (CAAPP), which was approved by U.S. EPA on December 4, 2001 (66 Fed. Reg. 62946). Through regular program interactions, our annual planning process, and periodic program reviews, U.S. EPA and Illinois EPA discuss program progress and implementation barriers. On February 24, 2011, U.S. EPA and Illinois EPA signed a work plan with the following objectives:

- Issue CAAPP permits pursuant to the Clean Air Act and Section 39.5 of the Illinois Environmental Protection Act, 415 ILCS 5/39.5 (Section 39.5).
- Significantly reduce issuance backlogs of CAAPP permit renewals and federally enforceable state operating permits (FESOPs), as identified in U.S. EPA's Title V Operating Permit System data base.

**Progress to date and plan forward**

- Illinois EPA has met or exceeded each of the milestones in the February 2011 Work Plan.
- Both U.S. EPA and Illinois EPA agree to extend the work plan through Calendar Year (CY) 2013 to continue the success of the February 2011 work plan, the reduction of the CAAPP permit backlog, work on lifting the stay of the initial CAAPP permits issued to the coal-fired power plants, and updating those permits through the permit reopening process.

**Objective 1: To reduce permit issuance backlogs of CAAPP permit renewals and Federally Enforceable State Operating Permits (FESOP).**

**Approach**

- U.S. EPA will, at a minimum, review one draft permit and accompanying Statement of Basis per month, if available. Illinois EPA will work with U.S. EPA to address any U.S. EPA comments.
- U.S. EPA will also work with Illinois EPA to most efficiently address U.S. EPA's comments. U.S. EPA commits to discussing our concerns with any specific operating permit with the Illinois EPA permit writer prior to submitting any formal comments. U.S. EPA will provide Illinois EPA with formal comments where it is warranted.
- U.S. EPA will support Illinois EPA with training and help with permit-specific issues, including addressing actual and perceived barriers that could delay permit issuance, and assist with applicability determinations where appropriate. In addition to U.S. EPA's data base of Title V petitions, orders, and other guidance documents, which is accessible by states, U.S. EPA commits to provide on-going assistance.
- U.S. EPA and Illinois EPA will follow the April 20, 2011, Memorandum of Agreement.
- Illinois EPA management will work with permit staff to identify and address barriers preventing the public noticing and issuance of final permits.

**Indicia of Progress:** The following tables summarize Illinois EPA's and U.S. EPA's permitting goals for CY 2013 for the current CAAPP and FESOP backlog.<sup>1</sup> Thereafter, Illinois EPA will continue to public notice and issue CAAPP permits and FESOPs from the backlog.

**CAAPP backlog table<sup>2</sup>**

<b>Date</b>	<b>Cumulative Total of Draft Backlogged Permits Sent to Public Notice</b>	<b>Targeted<sup>3</sup> Cumulative Total of Final Backlogged Permits Issued</b>
Targeted Milestones for June 2013	72	39
December 2013	102	54

<sup>1</sup> The backlog was developed under the February 2011 Work Plan and includes the CAAPP and FESOP lists submitted to U.S. EPA and identifying pending permits as of October 2010.

<sup>2</sup> The number of permits for public notice and final issuance are continued from the February 2011 Work Plan for the CAAPP permit backlog.

<sup>3</sup> The word "targeted" is used in relation to final permit issuance in recognition that third parties can impact "final" permit issuance and/or effective dates through petitions to object filed with the Administrator and permit appeals filed with the State by permittees.

**Objective 2: To issue CAAPP permits to appealed coal-fired power plants based on the approach agreed to for the Ameren – Coffeen Generating Station permit.**

### **Approach**

The remaining coal-fired power plant initial CAAPP permits that have been appealed will be processed consistent with the methodology and process as described in the September 25, 2012, letter to U.S. EPA from the Illinois EPA, outlining our strategy and administrative process to getting final and effective initial permits and updating those permits to reflect new applicable Clean Air Act requirements through the reopening process.

## ATTACHMENT C

### AFFIDAVIT OF DON BERLAGE

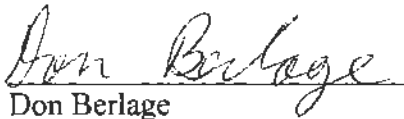
Don Berlage, being first duly sworn upon oath, deposes and states as follows:

1. My name is Don Berlage. My wife and I own and operate a family dairy farm, in partnership with my son. I also serve as a director of the Illinois Milk Producers' Association (IMPA), vice-president of the Jo Daviess County Farm Bureau, and a member of the Swiss Valley Farms Dairy Cooperative.
2. This affidavit has been prepared on behalf of the Agricultural Coalition in my role as a director of the IMPA.
3. IMPA is an association of the five largest dairy cooperatives and two independent processors operating in the state, and collectively they market more than 85% of the state's milk production.
4. Existing section 501.404(b) addresses temporary manure stacks, and the Illinois Environmental Protection Agency (Illinois EPA) proposed to amend subsections (b)(1) and (b)(2) and add a subsection (b)(3) providing in its entirety that "[a] temporary manure stack shall be constructed or established and maintained in a manner to prevent runoff and leachate from entering surface waters or groundwater. A cover and pad or other control must be provided when needed to prevent runoff and leachate from entering surface waters and groundwater."
5. In its November 7, 2013 Opinion and Order, the Board stated that Illinois EPA's use of the phrase "when needed" was vague. The Board further stated that "[i]t does not clearly identify who is to determine the need for control of manure stacks or the bases on which they are to make the determination." The Board struck the phrase "when needed."
6. Thus, the Board amended Illinois EPA's proposal to require that any temporary manure stacks must have a pad and cover or other control at all times, whether or not it is needed to prevent runoff or leachate from entering surface or groundwater.
7. This requirement would add significant cost for farmers by requiring that a control be utilized, even in situations where one is not needed.
8. The practice of daily-scrape-and-haul is utilized by many smaller dairies in the state. If a farmer chooses to create a temporary manure stack, it is usually done during the summertime when rainfall is relatively low. These farmers will stack manure in pastures or hayfields, which are natural vegetative filter strips. Furthermore, the temporary manure stacks are placed in areas chosen to specifically limit environmental impact. Once the crops are harvested in the fall, the manure is applied at an agronomic rate to the newly-harvested field. This system is an effective and low-cost way to temporarily store manure.

9. The cost to construct an earthen-bermed stacking pad, with an impermeable floor of *in situ* clay will cost several thousand dollars of excavation and bulldozer time. If a concrete pad with a curb is required; it will add 75 cubic yards of concrete for a 40' by 100' stacking area. At \$90 a yard, this would cost approximately \$7,000 in material alone. Labor, structural support, and forms would certainly run the costs of this project to \$10,000.
10. In addition, the construction of this impermeable pad would take this land out of production. Using a temporary manure stack, as we know it today, would allow the producer to continually use this land for production purposes during times when the manure stack is not used.
11. Illinois EPA's original proposed language, which included the phrase "when needed", would provide flexibility for farmers to protect water resources by requiring a pad and cover when necessary to eliminate leachate and runoff. However, a farmer should not face the costs described above when it is determined that a pad and cover are not necessary to prevent leachate and runoff.
12. In light of these expenses and the steps taken by producers to prevent runoff or leachate from entering surface or groundwater, Illinois EPA's original language should be retained.

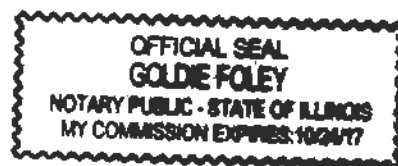
This concludes my affidavit.

Affiant:

  
Don Berlage

Subscribed and sworn to before me this 1 day of 24, 2014.

  
Notary Public



## ATTACHMENT D

### AFFIDAVIT OF TED FUNK

Ted Funk, being first duly sworn upon oath, deposes and states as follows:

1. My name is Ted Funk. Since 1984, I have been a licensed professional engineer. I am a former University of Illinois at Urbana-Champaign Extension Specialist in Agricultural Engineering, as well as a former member of the University of Illinois at Urbana-Champaign faculty of the Department of Agricultural and Biological Engineering. I held these positions from 1995 until my retirement in November 2012.
2. Since my retirement, I have engaged in private consulting, to provide agricultural engineering services to several organizations worldwide, including the Illinois Pork Producers Association.
3. I reviewed the Illinois Pollution Control Board's (Board) November 7, 2013 Opinion and Order, and on behalf of the Agricultural Coalition, I wish to provide additional testimony and suggest the following revisions to the proposed rule.
4. **Section 502.510(b)(13) - Subsurface Drainage Tiles.**  
The Board's First Notice Opinion and Order includes the following proposed language at Section 502.510(b)(13):
  - b) The nutrient management plan must specify and demonstrate:  
\* \* \*
    - 13) The plan for the inspection, monitoring, management and repair of subsurface drainage systems at the livestock waste application site. Inspection of subsurface drainage systems shall include visual inspection prior to land application to determine failures that may cause discharges and visual inspection during and after land application to identify discharges;
5. While most manure applications, if applied at the appropriate rate in appropriate soil conditions, would not likely encroach on saturated soil near tile depths, site-specific evaluations may be warranted. Visual inspection of tile inlets and outlets is reasonable in many cases; however, visual inspection of subsurface drainage system components other than the inlets and outlets, prior to manure application, may be impossible (e.g. if application is over a standing crop that prevents an observer seeing the soil surface) or inconclusive (application is through or over a heavy layer of crop residue).
6. The actual presence of a subsurface drainage system may be undocumented for a field where drain tiles were installed many years ago. There may be no maps or other records of the tile locations, other than the physical presence of tile inlets and outlets (this applies also to mapping requirements in Nutrient Management Plan Information in Section 502.505(g)). There may also exist subsurface drainage systems that do not have exposed

tile inlets at the soil surface and, thus, have no clues in the field, making it virtually impossible to be compliant with this provision.

7. Therefore, I recommend that Section 502.510(b)(13) be revised to state the following:

(13) The plan for the inspection, monitoring, management and repair of subsurface drainage systems at the livestock waste application site. When allowed by land surface cover or otherwise practicable, inspection of subsurface drainage systems shall include visual inspection of tile inlets and outlets prior to land application to determine failures that may cause discharges and visual inspection of tile inlets and outlets during and after land application to identify discharges. Inspection of subsurface drainage systems shall include visual inspection at least annually if the field is documented to contain such a system.

8. **Section 502.615(a)(10) – Nutrient Transport Potential.**

The Board's First Notice Opinion and Order includes the following proposed language at Section 502.615(a)(10):

a) Field Assessment. An individual field assessment of the potential for nitrogen and phosphorus transport from the field to surface waters must be conducted and the results contained in the nutrient management plan. The following factors must be identified for each field to determine nitrogen and phosphorus transport potential to waters of the United States.

\* \* \*

10) Subsurface drainage tiles.

9. As stated above with regard to Section 502.510(b)(13), it may only be possible to identify the tile inlets and outlets, and even those could be difficult to locate in some cases, depending on the age of the subsurface drainage system.

10. Therefore, I recommend that Section 502.615(a)(10) be revised to state the following:

(10) Subsurface drainage tiles, where evidence of location is available.

11. **Section 502.645(e) – Land Application Setback Requirements**

The Board's First Notice Opinion and Order includes the following proposed language at Section 502.645(e):

e) Livestock waste shall not be land applied within 200 feet of potable water supply wells.

12. This setback, proposed by both the Illinois Environmental Protection Agency (IEPA) and the Board, is greater than the setback required in Section 900.803p of the Livestock Management Facilities Act (LMFA), which is 150 feet. The LMFA setback of 150 feet is greater than the federal regulation requires, and also is applied in many other scenarios.

Illinois farmers have received significant training regarding this setback required by the LMFA.

13. Therefore, I recommend that Section 502.645(e) be revised to state the following:

- e) Livestock waste shall not be land applied within 150 feet of potable water supply wells.

14. **Section 502.615(c)(6) – Nutrient Transport Potential**

The Board's First Notice Opinion and Order includes the following proposed language at Section 502.615(c)(6):

- c) Nitrogen-based application of livestock waste must be conducted consistent with the following requirements:

\* \* \*

- 6) where surface waters are on the assessed field or within 200 feet of the field, the livestock waste applied to the field shall be injected or incorporated within 24 hours of the application or equivalent conservation practices must be installed and maintained on the field pursuant to the United States Department of Agriculture Natural Resources Conservation Service practice standards; and

15. Field sizes can vary considerably, and runoff from a single field can flow in several directions, depending on the watershed divides. This provision is confusing, and as written, would require application of livestock waste to be limited on the entire field even though the majority of the field is farther than 200 feet from surface waters.

16. Therefore, I recommend that Section 502.615(c)(6) be revised to state the following:

- 6) where surface waters are on the assessed field or within 200 feet of the field, the livestock waste applied to portions of the field that are within 200 feet of surface waters shall be injected or incorporated within 24 hours of the application or equivalent conservation practices must be installed and maintained on the field pursuant to the United States Department of Agriculture Natural Resources Conservation Service practice standards; and

17. **Section 502.615(d)(3) – Nutrient Transport Potential**

The Board's First Notice Opinion and Order includes the following proposed language at Section 502.615(d)(3):

- d) Phosphorus-based application of livestock waste must be conducted consistent with the following requirements:

\* \* \*

- 3) if the soil contains greater than 50 pounds of available soil phosphorus per acre (median Bray P1 or Mehlich 3 in accordance

with the Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in Section 501.200)), phosphorus-based application rates must be neutral during the nutrient management plan period;

18. While the intention of this provision is to limit the long-term buildup of phosphorus in the fields used for land application of livestock waste, the trigger for using a phosphorus-limited application rate, rather than a nitrogen-limited application rate, is stated in Section 502.615(c)(2): median soil phosphorus test greater than 300 pounds per acre. The Illinois Agronomy Handbook guidance implies optimum phosphorus test of 50-70 pounds per acre, depending on the area of the state, as soils have different phosphorus supplying power.
19. Therefore, I recommend that Section 502.615(d)(3) be revised to state the following:
  - 3) if the soil contains greater than the agronomic optimum of available soil phosphorus, but less than 300 pounds per acre, (median Bray P1 or Mehlich 3 in accordance with the Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in Section 501.200)), phosphorus should be applied at rates calculated to maintain or lower the phosphorus soil test over the nutrient management plan period.
20. **Section 502.620(f) – Protocols to Land Apply Livestock Waste**

The Board's First Notice Opinion and Order includes the following proposed language at Section 502.620(f):

- f) Surface land application may be used when the land slope is no greater than 5% or when the yearly average soil loss calculated using Revised Universal Soil Loss Equation is equal to or less than 5 tons per acre per year or Erosion Factor T, whichever is less, regardless of slope. Injection or incorporation within 24 hours shall be used when the land slope is greater than 5% and the yearly average soil loss calculated using Revised Universal Soil Loss Equation is greater than 5 tons per acre per year or Erosion Factor T, whichever is less.

BOARD NOTE: Soil loss may be determined using Revised Universal Soil Loss Equation 2 (RUSLE2) software program available at [http://fargo.nserl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_Index.htm](http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm) and Erosion Factor T for Illinois soils is available from the United States Department of Agriculture Natural Resources Conservation Service's published soil surveys at [http://soils.usda.gov/survey/printed\\_surveys/state.asp?state=Illinois&abbr=IL](http://soils.usda.gov/survey/printed_surveys/state.asp?state=Illinois&abbr=IL)

21. The "dominant critical soil type" should be the soil type considered for the limiting erosion factor for the field, as determined by the RUSLE2 model calculation. This provision essentially employs the RUSLE2 calculation, which is recognized only as a



pointwise soil erosion model, for the purpose of predicting phosphorus transport from the field. It was not the intent of the developers of the RUSLE2 for the model to be used for that purpose. Notwithstanding, for the RUSLE2 calculation to be of reasonable utility in this context, the part of the field that is critical for runoff should be specified, and that part is referred to as the “dominant critical soil type,” determined through guidance from Agronomy Technical Note IL-3, available in Section 1 of the Illinois Natural Resources Conservation Service (NRCS) Field Office Technical Guide.

22. Therefore, I recommend that Section 502.620(f) be revised to state the following:

f) Surface land application may be used when the land slope is no greater than 5% or when the yearly average soil loss, calculated for the dominant critical soil type in the field using Revised Universal Soil Loss Equation is equal to or less than 5 tons per acre per year or Erosion Factor T, whichever is less, regardless of slope. Injection or incorporation within 24 hours shall be used when the land slope is greater than 5% and the yearly average soil loss, calculated for the dominant critical soil type in the field, using Revised Universal Soil Loss Equation is greater than 5 tons per acre per year or Erosion Factor T, whichever is less.

23. **Section 502.620(g) – Protocols to Land Apply Livestock Waste**

The Board’s First Notice Opinion and Order includes the following proposed language at Section 502.620(g):

g) Land application of livestock waste is prohibited on slopes greater than 15%.

24. The Illinois NRCS 590 standard allows land application of livestock waste on slopes greater than 15% if injection or incorporation is used. Having a prohibition via this provision of all livestock waste on slopes greater than 15% under any application protocol is inconsistent with other standards in the state. Furthermore, since the provision relies on RUSLE2 calculation to determine which methods may be used for land application of livestock waste, it is important to note that impacts of such land application methods are embodied in the RUSLE2 model. Thus, a more comprehensive set of factors already accepted by the Board via RUSLE2 in other parts of the proposed rules may limit or prohibit such applications, but in a context that is more consistent with the intent.

25. Therefore, I recommend that Section 502.620(g) be deleted.

26. **Section 502.635(b)(2) – Manure and Soil Sampling and Analysis**

The Board’s First Notice Opinion and Order includes the following proposed language at Section 502.635(b)(2):

b) Manure sampling.

\* \* \*

2) The laboratory analysis of livestock waste sample shall include total kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids. The nutrient results shall be reported in mg/kg dry weight basis or mg/l wet weight basis on the laboratory analysis sheet. The results of these analyses are to be used in determining application rates for livestock waste.

27. Laboratories currently provide farmers with livestock waste sample data in units of lb/ton for dry weight basis and lb/1000 gal for wet weight basis. Farmers then use that information to determine application rates for livestock waste and calibrate manure spreaders. The proposed provision would require laboratories to change their current practice and begin providing the farmers with information that is not in its most useful form.

28. Therefore, I recommend that Section 502.635(b)(2) be revised to state the following:

2) The laboratory analysis of livestock waste sample shall include total kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids. The nutrient results shall be reported in lb/ton dry weight basis or lb/1000 gal wet weight basis on the laboratory analysis sheet. The results of these analyses are to be used in determining application rates for livestock waste.

29. A copy of my Curriculum Vitae is attached to this Affidavit as Exhibit 1.

This concludes my affidavit.

Affiant:

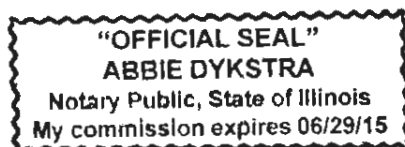


Ted Funk

Subscribed and sworn to before me this 21 day of Jan, 2014.



Notary Public



**Exhibit 1****TED L. FUNK, PHD, PE**1808 Lyndhurst Dr., Savoy, IL 61874 | 217-356-1304 | [funkt7@gmail.com](mailto:funkt7@gmail.com)**EDUCATION**

University of Illinois at Urbana-Champaign <b>PhD, Agricultural Engineering</b> Dissertation: Anemometry Tools and Procedures for Greenhouse Experiments	<b>1994</b>
University of Illinois at Urbana-Champaign <b>MS, Agricultural Engineering</b> Thesis: Utility-Interconnected Four-Kilowatt Photovoltaic Demonstration	<b>1988</b>
University of Illinois at Urbana-Champaign <b>BS, Mechanical Engineering</b> High Honors Area of concentration: Machine Design	<b>1974</b>

**PROFESSIONAL REGISTRATIONS**

<b>Professional Engineer</b> , Illinois, Registration No. 062-043505	<b>1988 to present</b>
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**EMPLOYMENT HISTORY**

Self-employed professional engineer	Dec 2012 to present
Faculty Member, Extension Specialist and Assistant Professor, University of Illinois at Urbana-Champaign	1995-Nov 2012
Extension Educator, Farm Systems, Univ. of Illinois Coop. Extension Service	1992-1995
Area Extension Advisor, Agricultural Engineering, Univ. of Illinois CES	1980-1992
Self-employed farmer, owner/partner, Funk Jerseys Dairy Farm, Liberty, Illinois	1975-1980
Product Engineer, Eaton Corporation, Detroit, Michigan	1974-1975

**MEMBERSHIPS**

American Society of Agricultural and Biological Engineers (ASABE)	1981 to present
Dairy Practices Council, Board member—Education	2004-2007
National Frame Builders Association—Education	2000-2012

**RELEVANT WORK EXPERIENCE***University of Illinois Extension statewide program in Livestock systems engineering*

During 33 year U of I Extension career, made visits to hundreds of Illinois farms, advising on engineering projects, training Extension personnel, and setting up farm demonstrations.

Managed statewide U of I Extension program in livestock systems engineering, including structures, indoor environments, manure management, nuisance avoidance. 1992-2012.

In 1996, developed the Illinois training program known as Certified Livestock Manager Training, in which Extension is contractor to the Illinois Department of Agriculture. The CLM training program is a state-mandated three-year certification required of all managers of livestock facilities over 300 animal units. Funk managed the program for the next 15 years until his retirement in 2012, composing and overseeing the delivery of dozens of different training presentations on environmental stewardship. Estimated number of different participants during the period: more than 3,000.

Participated in Illinois Environmental Protection Agency's stakeholder working group on Illinois NPDES Permit for CAFOs, representing University of Illinois Extension	2011-2012
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Provided testimony at Illinois Pollution Control Board rulemaking hearings, IL NPDES Permit for CAFOs	2012
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Held training days for custom manure haulers, several sessions 2003-2012

Technical Service Provider training—Comprehensive Nutrient Management Plans writing (IL NRCS Conservation Innovation Grant project). Principal Investigator. 2011

Coordinated EPCRA emissions reporting for Illinois CAFOs, winter 2009.

Hosted multistate Manure Management Field day on the University of Illinois South Farms, 2004.

Conference coordinator, Illinois Livestock Manure Management Conference, semi-annual statewide conference 1993-2009.

Worked as a member of a multistate group, NCCC-9 MidWest Plan Service (IA State University, Ames) to develop and deliver a national training curriculum on environmental stewardship, known as the LPES (Livestock and Poultry Environmental Stewardship) curriculum. This training manual, which covers many aspects of manure management, mortality management, water quality protection, odor nuisance control, safety, and emergency response planning, was endorsed by USDA-NRCS, US EPA, and other groups for general training of livestock systems managers.

Member, National Ag Waste Management Initiative. 2001. Worked with NAWMI and National Ag Waste Management Center to prepare detailed response to EPA's proposed regulations on concentrated animal feeding operations (CAFO's) and animal feeding operations (AFO's).

Member, multistate USDA-NIFA project on livestock manure management; Numbers S-239, S-1000, S-1032. Toured and photographed livestock facilities in all regions of the lower 48 states during the years 1989-2012.

*Investigative research, regulations development, and expert witness*

Manure foam in swine confinements. Assisted with research projects at University of Illinois and a multi-state project to study causes of foam, and methods of foam control and prevention. Made training presentations on management of foaming manure pits, and delivered presentations at the Illinois Pork Expo (February 2011) and at Illinois Certified Livestock Manager Training workshops winter 2010/2011.

Beef confinement building roof collapse, two buildings on University of Illinois South Farms, February 2011. Assisted with analysis of truss failure, and submitted a new design for roof vent structures to prevent recurrence of conditions.

Swine confinement fire, East-Central Illinois, 2010. Documented building damages resulting from fire started by ignition of gas over foaming manure pit. Worked with Illinois Fire Service Institute personnel to document and supply information for a first responders' memo on protocols for such cases.

Swine odor nuisance case and research project, northwestern Illinois. 2002-2004. Assisted with various segments of the sponsored odor research project, alongside researchers from the U of I Departments of Animal Sciences and Agricultural & Biological Engineering. Was deposited by state's counsel as an expert witness in the course of the project.

Swine building roof collapse, central IL, 1997. Documented and investigated roof truss plate corrosion failures caused by backdrafting of pit gases into the building attic.

Swine building wind damage, SE IL, ca. 1984. Documented and wrote opinion on post-frame building anchor deficiencies, following major sidewall failure of open-front confinement building.

Swine confinement floor collapse, Lawrence County, IL ca. 1983. Documented slotted floor collapse thought to have been initiated by earthquake.

Dairy stray voltage investigations. 1982-1995. Multiple on-farm investigations throughout Illinois, and one-on-one training sessions held for utility customer service representatives and local electricians.

**RESEARCH EXPERIENCE**

Last five years was Principal Investigator on research and Extension grants totaling more than \$1.1M.

Principal Investigator, USDA-NIFA project "Integrated Project to Improve Moisture Control and Practical Design Procedure of Biofilters for Treating Exhaust Air from Livestock Buildings." 2009-2012.

## RESEARCH REVIEW PANELS

Small Business Innovation Research, USDA, ad hoc reviewer 2009-2012

## CONSULTING EXPERIENCE--FOREIGN

Invited participant, Illinois delegation to Eighth Annual World Congress on Industrial Biotechnology and Bioprocessing, Toronto, CA. "Illinois Bioenergy Advances in Research & Education." 2011

Lectured in South Korea and People's Republic of China on environmental control in swine buildings. Six years 2004- 2009

Invited lectures in Mexico on anaerobic digestion systems for dairy farms 2007

Invited lectures at community colleges, and farm visits, in Japan on dairy and swine confinement system manure management practices 2002

Traveled and lectured in Mexico, swine and dairy confinement systems, for IL Dept of Ag Marketing Division 2002

Invited lectures in Cuba on Illinois Extension methods 2001

Invited lectures in the Dominican Republic on environmental control in poultry buildings 1999

## AWARDS

Distinguished Service Award, Illinois Pork Producers Association 2013

Rural Builder Hall of Fame, Rural Builder Magazine 2012

Campus Award for Excellence in Public Engagement. UIUC 2004

Professional Staff Award for Excellence – Innovation and Creativity. College of ACES. 2003

Environmental Education Award. National Extension Association of Family and Consumer Sciences. 2002

ASAE Educational Aids Competition, Extension Methods category. Blue Ribbon Award, Livestock and Poultry Environmental Stewardship Curriculum. 2002

ASAE Superior Paper Award. He, B.J., Y. Zhang, Y. Yin, T.L. Funk, G.L. Riskowski. "Operating Temperature and Retention Time Effects on the Thermochemical Conversion Process of Swine Manure." Trans. ASAE, Vol. 43, No. 6. 2001

Pork Information Partner Award, Illinois Pork Producers Association 2000

Sustained Excellence in Extension Programming, University of Illinois Extension 1999

## PUBLICATIONS AND PAPERS

*Refereed Journal Articles*

Yang, L., X. Wang, T. L. Funk, R. S. Gates. 2011. Biofilter media characterization and airflow resistance test. Trans. ASABE 54(3): 1127-1136.

Yu, G., Y. Zhang, L. Schideman, T. Funk and Z. Wang. 2011. Distributions of carbon and nitrogen in the products from hydrothermal liquefaction of low-lipid microalgae. Energy Environ. Sci., 2011, Advance Article DOI: 10.1039/C1EE01541A.

Dong, R., Y. Zhang, L.L. Christianson, T.L. Funk, X. Wang, Z. Wang, M. Minarick and G. Yu. 2009. Product distribution and implication of hydrothermal conversion of swine manure at low temperatures. Transactions of ASABE 52(4): 1239-1248.

Funk, T.L., R. Hussey, Y. Zhang, M. Ellis. 2004. Synthetic covers for emissions control from earthen embanked swine lagoons, Part I. Positive pressure lagoon cover. Applied Engineering in Agriculture. Vol. 20(2): 233-238.

Funk, T.L., A. Mutlu, Y. Zhang, M. Ellis. 2004. Synthetic covers for emissions control from earthen embanked swine lagoons, Part II: Negative pressure lagoon cover. Applied Engineering in Agriculture. Vol. 20(2): 239-242.

Huang, H., G.Y. Miller, M. Ellis, T. Funk, Y. Zhang, G. Hollis, A.J. Heber. 2004. Odor management in swine finishing operations: Cost effectiveness. *J. Food, Agriculture & Environment*. Vol. 2 (3 & 4):131-136.

Trask, J.R., P.K. Kalita, M.S. Kuhlenschmidt, R.D. Smith, and T.L. Funk. 2004. Overland and near-surface transport of *Cryptosporidium parvum* from vegetated and nonvegetated surfaces. *J. Environ. Qual.* 33:984:993 (2004).

Wang, X., Y. Zhang, T.L. Funk, L. Zhao and G.L. Riskowski. 2004. Effect of ventilation system on particle spatial distribution in ventilated rooms. *ASHRAE Transactions*. 110 (2): 258-266.

*Bulletins, Reports or Conference Proceedings*

Brumm, M.C., T.L. Funk, J. Harmon, and G.D. Schnitkey. 2001. Swine Wean-to-Finish Buildings. AED 46. Midwest Plan Service, Ames, IA. 24 pp.

Janni, K., T. L. Funk, and B. Holmes. 1999. Using all-weather geotextile lanes and pads. MWPS AED-45. Midwest Plan Service, Ames, IA. 12 pp.

Funk, T.L., G. Bartzis, J. Treagust. 1993. Designing and managing livestock waste lagoons in Illinois. IL Lagoons. UI Circular 1326, Cooperative Extension Service, College of Agriculture, UIUC. 17 pp.

*Papers and conference proceedings articles (representative list)*

Funk, T.L., M.J. Robert, J.M. Appleford, Y. Chen. 2007. Two novel sensor systems for monitoring moisture content in biofilters treating exhaust ventilation air from livestock production facilities. Annual Int'l Mtg of ASABE. Paper No. 701P0907cd.

Lenkaitis, A.C., X. Wang, T.L. Funk, M. Ellis. 2007. A micro-environment measurement system during swine transport. Annual Int'l Mtg of ASABE. Paper No. 074086.

Funk, T.L. 2003. Basic practices for reducing surface and groundwater pollution from Illinois dairy farms. In, 2003 Illinois Dairy Report. Dept. An. Sci., University of Illinois Extension, University of Illinois at Urbana-Champaign. pp. 38-40.

Funk, T.L., L.D. Firkins, M.J. Robert, and Y. Zhang. 2003. Engineering Design for Biosecurity in Swine Production Systems. In, Swine Housing II, Conference Proceedings, 12-15 October. Raleigh, North Carolina. ASAE Pub #701P1303 pp. 102-109.

Funk, T.L., M.J. Robert, Y. Zhang, R.E. Fonner. 2003. Precision and accuracy in a nutrient management plan utilizing liquid manure application: Expectations and reality. 2003 ASAE Annual Intl. Mtg. Las Vegas, NV. Paper No. 032158.

Robert, M.J., C. S. Shaffer, T. L. Funk, and Y. Zhang. 2003. Carbon dioxide and temperature change due to ventilation failure. Proc. Second Int'l Swine Housing Conference (Durham, NC, Oct. 2003), ASAE, St. Joseph, MI.

*Articles in trade press magazines, newsletters, and periodicals (Representative)*

Blueprint Series: Capturing Manure's Value. Nutrient Management. National Hog Farmer. Apr 15, 2013.

Don't be next to fall victim to manure gases. Hoard's Dairyman, Mar 25, 2008. P. 220.

What is it that gets on our neighbors' nerves? Hoard's Dairyman, Apr 10, 2007. p. 251. Hoard's Dairyman, Japanese edition, Sep 9, 2007. p. 502-503.

As Fertilizer Prices Rise, the Manure Option is Looking Better. 2006. University of Illinois Extension, Office of News and Public Affairs.

Basic practices for reducing surface and groundwater pollution from Illinois dairy farms. 2005. University of Illinois Extension, Office of News and Public Affairs.

Composting as an Option for Livestock Manure Treatment. 2001. University of Illinois Extension, Office of News and Public Affairs.

*Books and book chapters*

Lorimor, J., C. Fulhage, R. Zhang, T. Funk, R. Sheffield, D.C. Sheppard, G.L. Newton. 2006. Manure management strategies and technologies: National Center for Manure and Animal Waste Management White Papers. In, Animal Agriculture and the Environment. J. M. Rice, D. F. Caldwell, F. J. Humenik, eds. ASABE, St. Joseph, Michigan. pp. 409-434.

Funk, T.L. and R.E. Fonner. 2005. *Illinois Manure Management Plan: a step-by-step instruction book with sample forms*. University of Illinois Extension.

Funk, T.L. and R.E. Fonner (eds.). 2000. *Certified Livestock Manager's Manual*. University of Illinois Extension.

Funk, T.L. (ed.) 1997. *Certified Livestock Manager's Manual*. University of Illinois Extension.

*Book review panels (only first reviewer listed)*

Auvermann, B. et al. 2002. Outdoor air quality. Section 3, Manure Management Systems Series, MWPS-18. MidWest Plan Service, Ames, IA. 96 pp.

Fulhage, C. et al. 2001. Manure storages. Section 2, Manure Management Systems Series, MWPS-18. MidWest Plan Service, Ames, IA. 117 pp.

Harmon, J. et al. 2001. Swine breeding and gestation facilities handbook. MWPS-43. MidWest Plan Service, Ames, IA. 103 pp.

Bickert, W.G. et al. 2000. Dairy freestall housing and equipment. Seventh edition, MWPS-7. MidWest Plan Service, Ames, IA. 152 pp.

Lorimor, J. et al. 2000. Manure characteristics. Section 1, Manure Management Systems Series, MWPS-18. MidWest Plan Service, Ames, IA. 23 pp.

Jacobson, L. et al. 1997. Swine nursery facilities handbook. MWPS-41. MidWest Plan Service, Ames, IA. 71 pp.

#### WEBSITES AND INTERNET TOOLS

Manure Central. 2011. [www.manurecentral.illinois.edu](http://www.manurecentral.illinois.edu). Resources about the production and management of livestock manure. University of Illinois Extension.

Illinois Manure Management Plan. 2006. [www.immp.illinois.edu](http://www.immp.illinois.edu) On-line version of manure management plan builder for Illinois livestock facilities. University of Illinois Extension.

EZregs Making Sense of Illinois Agricultural and Horticultural Regulations. 2006. [www.ezregs.illinois.edu](http://www.ezregs.illinois.edu). University of Illinois Extension.

Certified Livestock Manager Training. 2003. [www.livestocktraining.com](http://www.livestocktraining.com). University of Illinois Extension.

#### TRADEMARKS OR SERVICEMARKS

Servicemark: EZregs, Registration # 096314. Identifies the web based tool for finding Illinois regulations, and for supplying explanatory materials to assist with understanding the regulations and their applications. EZregs was developed and populated by a committee headed by T. Funk.

#### PATENTS OR INVENTION DISCLOSURES

Agricultural manure foam elimination device.	2011
Biofilter moisture sensor	2005
Thermochemical conversion process for producing crude oil from livestock manure.	2004
Variable orifice control system for variable rate application from liquid manure tank.	2002

## ATTACHMENT E

### AFFIDAVIT OF DAVID TRAINOR

David Trainor, being first duly sworn upon oath, deposes and states as follows:

1. My name is David Trainor. I am licensed professional engineer and professional geologist. I have been practicing as an environmental consultant for nearly 34 years specializing in groundwater flow and contaminant transport studies. Currently I am a Vice-President with Shannon & Wilson. A current resume is attached.
2. I was initially authorized by the Illinois Agricultural Coalition to provide both written and oral testimony at the November 14, 2012 Elizabeth, Illinois hearing. It was the final public hearing addressing the Illinois Pollution Control Board's (Board) proposal to amend Ill. Adm. Code Parts 501, 502, 504 addressing pollution regulations applying to Concentrated Animal Feeding Operations (CAFOs). My testimony was directed toward the proposed manure land spreading requirements in support of Part 502.620 paragraphs (h), (j) and (k).
3. I reviewed the recent Illinois Pollution Control Board's (Board) November 7, 2013 First Notice Opinion and Order that seeks comment on the Board's suggested changes to the rule proposal filed by the Illinois Environmental Protection Agency ("IEPA"). In response, I provide this additional testimony and suggestions for revisions to the Board's proposed rule. I also provide responses to Mr. Samuel Panno's criticism of my earlier testimony, and a response to Mr. Panno's January 24, 2014 comment filed with the Board regarding his suggested definition of a "karst aquifer".

4. **Section 502.620 Protocols to Land Apply Livestock Waste**

The Board's First Notice Opinion and Order for paragraphs (h) and (j) of this subpart have been revised to specify the following:

(h) Liquid livestock waste shall not be applied to land with less than 36 inches of soil covering fractured bedrock, sand or gravel.

and

(j) Livestock waste shall be applied at no greater than 50 percent of the agronomic nitrogen rate determined pursuant to Section 502.625 when there is less than 60 inches of unconsolidated material over bedrock.

These revisions compare to the IEPA proposed rule in that, although the text is the same, the IEPA's proposal contained soil overburden thickness recommendations that are much more realistic and scientifically sound as it relates to Illinois geology, specifically: **10 inches of soil covering** (for (h)) and **20 inches of unconsolidated material** (for (j)). The Board's First Notice Opinion and Order for paragraph (k) did not propose changes to the IEPA's proposal.

5. The Board referenced recommendations in the *Northeast Wisconsin Karst Task Force Report* (February 2007) (the *Report*) as a source for its revisions. I am aware of this report; it is my opinion that there is no scientific rationale for its use in developing state-wide regulations generally applicable to Illinois. Note that the *Report* specifically addressed the five counties of Brown, Calumet, Door, Kewaunee and Manitowoc in the northeast corner of the state. These counties are underlain by thin overburden soils at the tip of the Door Peninsula in the north that gradually thicken to the south along the southern boundaries of Calumet and Manitowoc



Counties. The surficial bedrock in this area consists primarily of Niagara Dolostone containing many karst features. Within Door County, the overburden thickness is largely less than five (5) feet. The majorities of the overburden thicknesses within Calumet and Brown Counties are between five (5) and 50 feet, and the majorities of the overburden thicknesses within Brown and Manitowoc are more than 50 feet.

6. The Wisconsin Task Force was concerned with addressing best management practices and karst vulnerability related (and limited to) the agricultural industry at a limited portion of the state. The *Report* was the result of the Task Force's acknowledgement of studies of known groundwater contamination originating from agricultural waste discharges.<sup>1</sup> The *Report* presented six primary recommendations (strategies) to protect the carbonate aquifer in the five county area. The third of these strategies, the long term protection strategy, identified the carbonate bedrock vulnerability ranking it by depth of overburden according to the following criteria:

- (1) < 5 feet thick (extreme);
- (2) > 5 feet and < 15 feet (high);
- (3) > 15 feet and < 50 feet (significant), and
- (4) > 50 feet (moderate).

7. With regard to manure land spreading restrictions for criterion (1), the *Report* developed the following recommendation:

#	Hazard	Limitation	Exception/comments
1	Land with less than 3 feet of soil to bedrock	No applications of manure.	None
2	Soils 3 to 5 feet to bedrock	Maximum application rates should be 3,000 gal/acre per application (or solid waste ton/ac equivalent) with a maximum application rate of 6,000 gal/yr.	None
3	Soils 3 to 5 feet to bedrock	Shallow incorporation (<10 inches) of all wastes immediately after application. No deep injection of wastes.	None
4	Areas with > 5 to 50 feet of soil to carbonate bedrock (Categories 2 and 3)	Incorporation of all wastes immediately after application.	None

8. The fifth of the *Report's* recommendation strategies included basic recommendations to be implemented by farmers, contractors, rural non-farm landowners, and county and town governments. One of the specific recommendations for this strategy included mapping:

<sup>1</sup> Because karst conditions provide much greater mobility for bacterial wastes than other groundwater environments, the *Report* stated "The recommendations are primarily intended to minimize groundwater contamination from pathogens and "brown water" and secondarily intended to minimize groundwater contamination from nitrate."

...areas of shallow bedrock and obvious karst interface features on a field-by-field basis.

9. As described, the *Report's* recommendations were developed for the five county northeast Wisconsin study area. These were specific to the carbonate bedrock that underlies the overburden, most sensitive to potential impact from surface contamination where the bedrock approaches the ground surface within the northern study area limits.
10. None of the *Report's* recommendations have been incorporated into the Wisconsin regulations governing animal feeding operations (see Wisconsin Administrative Code ch. NR 243). Regarding soil depth restrictions to bedrock underlying manure spreading areas, ch. NR 243.14 (2) (b) 7 states:

Manure or process wastewater may not be applied on areas of a field with a depth to groundwater or bedrock of less than 24 inches.

Additionally, ch. NR 243.14 (2) (b) 12 states:

On a field with soils that are 60 inches thick or less over fractured bedrock, manure or process wastewater may not be applied on frozen ground or where snow is present.

No other bedrock separation distances are promulgated in the ch. NR 243, WAC regulations.

11. Application of part of the *Report's* recommendations to proposed rule Section 502.620 (h) and (j) is overly restrictive. The proposed rule includes differing geologic materials (sand and gravel) that have different geochemical and hydraulic properties compared to fractured bedrock. These materials were not considered as part of the *Report's* recommendations. Additionally, not all fractured bedrock is fractured carbonate bedrock that was the focus of the *Report*. Extensive areas of northern Illinois are underlain by a thick sequence of Maquoketa Shale that has been shown to be fractured within the upper few feet at some areas. However, this unit is a confirmed aquitard through which groundwater discharge is extremely low and largely immeasurable. Accordingly, the Board's First Notice proposal extends the rule to many areas in Illinois that would be prohibited from land application, with no scientific justification.
12. Mr. Panno submitted comments to clarify his testimony during the fourth hearing and respond to my testimony in the final hearing. Included was his suggestion that approximate bedrock depths could be supplied by the Illinois State Geological Survey (ISGS). He indicated this information is based on "drilling data and private well data" compiled in the ISGS database. However, determining site specific bedrock depths based upon these regional data is highly indeterminate because such data rely on points separated by hundreds of feet. Consequently, the proposed depth restrictions will necessitate extensive field studies to assure the limits are not breached.
13. The IEPA's proposed rule was for a minimum 10 inch soil overburden depth for 502.620 (h) and 20 inches for 502.620 (j). In combination with field studies, the original depth restrictions are more easily confirmed than the Board-proposed 36 and 60 inch depths. Field studies designed to determine these increased depths will inherently have greater uncertainties than determining the shallower depths.

14. Because the proposed conditions in the Board's First Notice Opinion and Order will eliminate many areas for potential manure spreading within Illinois, with little environmental benefit, I recommend the Board reconsider the original rule language proposed by the IEPA for Part 502.620 (h) and (j).

15. Mr. Panno also referenced my testimony as described on page 148 of the Board's First Notice Opinion and Order:

Mr. Panno first disputed Mr. Trainor's statement that "all groundwater is reduced" and therefore no bacteria can survive in it." PC 21 at 1; see Tr.5 at 121-22, 205-06.

16. My statement on this subject in the transcript on page 121 actually states:

When it comes to groundwater contamination, there are very few -- and I'm not saying there aren't any, but with these types of contaminants for this type of application, most groundwater is normally protected.

And that has to do with a couple of things; namely, the environment of the groundwater is a reducing environment. It is oxygen starved, and that is, bacteria doesn't (don't) survive in the groundwater environment. Normally it dies off before it reaches surface water through normal discharge of groundwater to surface water.

17. Further, my later discussion on this same subject as described in the transcript on page 205 – 206 states:

Dr. Keefer made the comment about my comment that the groundwater environment is -- as a reducing environment. I don't recall saying all groundwater is reducing, but I said, by and large, it is a reducing environment. That's true. There are occasions, just like any other, that there can be oxic conditions in groundwaters. In very fractured bedrock where you have shallow bedrock near the surface that can certainly be measured. By and large, the groundwater environment worldwide tends to be reducing, because we use that fact in our studies of contaminant transport. This is why, by and large, most pathogens and most bacteria that gets into the groundwater environment doesn't survive. That's a fact.

I mean, it's just a function of the fact that Dr. Keefer attested to, the reason you put in a drain tile system is to reduce the water level in order to allow the roots to maintain their oxygen levels. Because once the groundwater environment approaches, you have a non-oxygenated environment. So again, I'm not saying that all groundwater is reducing. I am saying that the large groundwater that we have on this planet is generally reducing. It's not all reducing, and there can be conditions where it can be oxygenating.

18. As described, Mr. Panno's reference to the hearing transcript that "all groundwater is reducing" is a mischaracterization of my testimony.

19. Mr. Panno presented a separate challenge to my testimony later on page 148 of the Board's First Notice Opinion and Order as follows:

In addition, Mr. Panno challenged Mr. Trainor's testimony regarding characterization of sites underlain by karst aquifers. PC 21 at 1. He claimed that "it is well known by karst hydrologists that dye tracing and trenching is absolutely essential for site characterization of flow paths and flow rates in a karst area. . . ." *Id.* He argued that karst areas are dominated by crevice and conduit flow, which provides "focused pathways for groundwater to travel very quickly and in directions that may be counter to what would be expected in porous media flow." *Id.* at 2. He further argued that characterization of this flow thus requires "thorough inspection of the bedrock (e.g., via excavations) and dye tracing. . . ." *Id.*

20. My testimony on this subject, described in the Board's First Notice Opinion and Order on page 225 states:

Although he (Mr. Trainor) acknowledged that investigations recommended by Mr. Panno may be appropriate to determine the design and location of large facilities, they are excessive to determine areas suitable for land application, even in areas that may have karst features. He argued that implementing Mr. Panno's recommendations would eliminate land application in large areas, including areas where facilities have long operated with few adverse effects.

21. This testimony clearly supports the investigation techniques required to determine karst features described by Mr. Panno. However and as explained above, my opinion is that those methods are unnecessary to determine the suitability of land spreading areas. That opinion remains unchanged.

22. Mr. Panno's January 14<sup>th</sup> comment provides a series of scholarly references for the definition of karst geology and karst terrain. The bulk of the narrative is thorough. However, Mr. Panno's concludes with the following summary definition for a karst aquifer:

*"Karst" refers to both the geology and hydrogeology of an area with bedrock that has a major component of soluble rock (i.e., limestone and/or dolomite). Secondary porosity formed by fractures in the rock bodies that has resulted from tectonic stresses on crustal rocks provides the pathways for movement of recharge water and groundwater into and through the rocks. The walls of the fractures are subject to dissolution by mildly acidic rainwater, snow melt and soil water containing carbonic acid that forms from carbon dioxide in the air and soil being dissolved in water. These slightly acidic recharge waters react with the carbonate rock and dissolve fracture walls, progressive widening of those fractures. The result is the formation of an enlarged connected porosity through which groundwater can, under a normal range of hydraulic gradients, flow rapidly. This connected porosity makes up the relatively high permeability of the carbonate rock aquifers of Illinois. When the fractures of the aquifer are widened to about one centimeter or more, the aquifer can include turbulent flow and the aquifer may be referred to as a "karst aquifer."*

Although the details regarding karst formation are accurate (please note that these conditions occur over geologic time well beyond normal human life spans), the specific definition described for a karst aquifer is misleading.

One of the fundamental concepts in fluid flow is the Reynolds number. It is described as:

$$R = VD\rho/\mu$$

Where **R** = Reynolds Number (dimensionless)  
*V* = velocity of the fluid in the direction of flow (ft/ sec)  
*D* = diameter of a tube of characteristic length (ft)  
*ρ* = density of the fluid (lb/ft<sup>3</sup>)  
*μ* = viscosity of the fluid lb-ft-sec/ft<sup>2</sup>

It can also be written as

$$R = VD/v$$

Where *v* = kinematic viscosity (ft<sup>2</sup>/sec)

The Reynolds number is a dimensionless value used to determine the ratio between viscous and inertial forces, such as those between the fluid and the walls of a conduit. Critical values for the Reynolds number signify boundaries between flow regimes. The Reynolds lower critical number in pipe flow defines the boundary between laminar and turbulent flow. This number varies between 2,000 and 4,000 and is a function of roughness and temperature, but for most applications the 2,000 value is conservatively used (Streeter & Wylie, 1975).

Mr. Panno's definition provides for a one centimeter minimum threshold for the conduit (fracture) width to allow turbulent flow to occur within a karst aquifer. Application of the above equation for water at 50° F (a common value for groundwater) for a one centimeter wide fracture at the lower critical Reynolds number yields the following:

$$\begin{aligned} R &= 2,000 \\ D &= 1.0 \text{ cm} = 0.033 \text{ ft} \\ v &= 1.407 \times 10^{-5} \text{ ft}^2/\text{sec} \text{ (water at } 50^\circ \text{ F)} \end{aligned}$$

substituting values and solving for *V* yields the critical velocity between laminar and turbulent flow:

$$V = 0.85 \text{ ft/sec}$$

For flow in a pipe, the law of the conservation of mass is written as

$$Q = VA$$

Where **Q** = discharge (flow – ft<sup>3</sup>/sec)  
*V* = velocity (ft/sec)  
*A* = cross-section area (ft<sup>2</sup>)

This same equation for groundwater flow is written as Darcy's Law:

$$Q = KiA$$

Where **K** = hydraulic conductivity of the porous media (cm/sec)  
*i* = hydraulic gradient (ft/ft)

where

$$V = Ki$$

or

$$V/K = i$$

Groundwater flow is studied as an ideal fluid, namely that its flow regime is laminar. Turbulent flow in some settings is not impossible, but it is dependent on the hydraulic gradient and hydraulic conductivity terms in Darcy's Law.

Typical values for karst dolomite and limestone vary from  $3.3 \times 10^{-5}$  ft/ sec to 0.16 ft/ sec (Freeze & Cherry, 1979)

Substituting this range of K values, the value for the hydraulic gradient for the Reynolds lower critical number (the critical velocity  $V$  calculated above) with a fracture opening of one centimeter for typical groundwaters range from:

$$i = 25,757 \text{ (ft/ft) for } K = 3.3 \times 10^{-5} \text{ ft/sec}$$

(the lower end of the typical karst K range) and

$$i = 5.3 \text{ ft/ft for } K = 0.16 \text{ ft/sec}$$

(the upper end of the typical karst K range).

Typical groundwater gradients ( $i$ ) can vary from very low 0.0001 ft/ft for highly permeable soils to very high (0.5 or higher) for low permeable soils. Accordingly, a horizontal gradient in porous media on the order of 25,000 ft/ft defines an impermeable barrier where flow is immeasurable. At the extreme upper end of the K range for karst formations a gradient allowing for the critical velocities needed to cause turbulent flow may be conceivable, but for only very short distances during brief periods, such as those during periods of rapid water table fluctuations.

Consequently, Mr. Panno's definition for turbulent flow in a saturated karst unit does not consider basic laws of fluid mechanics.

- 23. In light of the information provided herein, I recommend the Board retain the IEPA's original proposed language in Sections 502.620(h) and (j). It is my opinion that the IEPA's original proposal is protective of the environment and the changes proposed by the Board are unduly restrictive, with little, if any, additional environmental benefit.

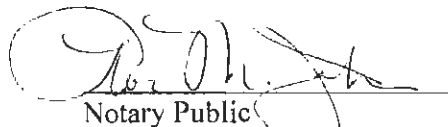
This concludes my affidavit.

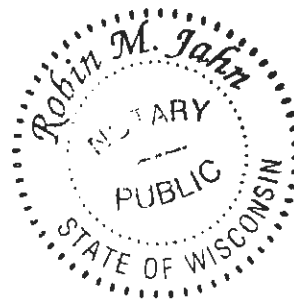
Affiant:



David Trainor

Subscribed and sworn to before me this 30 day of JAN, 2014.

  
Notary Public



my Commission EXPIRES 9/16/2017



## David P. Trainor, P.E. P.G.

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### Registrations and Professional Affiliations

Professional Engineer, Wisconsin, Michigan, Pennsylvania, California, Idaho, Iowa  
Professional Geologist, Wisconsin  
American Society of Civil Engineers  
International Society for Soil Mechanics and Foundation Engineering  
American Institute of Professional Geologists, Certified Professional Geologist, AIPG

### Education and Training

M.S. Civil and Environmental Engineering, University of Wisconsin, Madison, 1983  
B.S. Civil Engineering, Ohio State University, 1978  
B.S. Geology, Ohio State University, 1975  
OSHA 40-hour Hazwoper

### Professional History

Shannon & Wilson, 2013 – present  
NewFields, 2003 to 2013  
URS Corporation (previously Dames & Moore), Principal-in-Charge/Senior Engineer, 1987 to 2003  
RMT, Inc., Geotechnical Project Engineer, 1983 to 1984; 1985 to 1987  
Northern Engineering and Testing, Geotechnical Project Engineer, 1984 to 1985  
Terratech, Inc., Staff Engineer, 1978 to 1981

### Experience Summary

Mr. Trainor has nearly 34 years' experience in numerous environmental projects and investigations, which include both federal (NPL, RCRA and removal action programs) and state-lead projects. Categories include RI/FS programs, geotechnical testing and analyses, groundwater assessments, disposal facility siting and design, groundwater remedy systems, and construction management. He has represented industrial and government clients in technical negotiations for a variety of facilities and settings.

### Representative Project Summaries

- Provided testimony at a contested case hearing for a confined animal feeding operation, Central Wisconsin.
- Developed vapor intrusion investigation plan for homeowners downgradient from a former manufacturing facility, Edgerton, Wisconsin.



- Provided testimony before the Illinois Pollution Control Board representing the Illinois Agricultural Coalition in support of proposed animal waste land spreading rules for concentrated animal feeding operations; Elizabeth, Illinois.
- Currently managing multi-firm RI/FS at a former ordnance manufacturing facility, NPL site; administered as a wildlife refuge by the federal Fish and Wildlife Service; Marion, Illinois.
- Managed RI/FS for NPL site, former manufactured gas plant and wood treatment site; directed remedial design and construction for interim coal tar removal system from a confined aquifer; Ashland, Wisconsin.
- Refurbished defunct groundwater extraction and pumping system; developed ozone sparge system design for low permeability soil conditions contaminated with chlorinated hydrocarbons at a former manufacturing plant. Edgerton, Wisconsin.
- Provided testimony at trial for a defendant siting a dairy operation in a karst geologic region. Jo Daviess County, Illinois.
- Currently assisting with PRP negotiations for de minimis contribution of PCBs to estuarine environment, NPL site; Sheboygan, Wisconsin.
- Analyzed historical data for contribution of PCBs related to disposal from publicly owned treatment works, Neenah/ Menasha, Wisconsin.
- Oversaw USEPA removal action; negotiated groundwater cleanup costs for final settlement with Wisconsin Department of Natural Resources for a former plating facility; Elkhorn, Wisconsin.
- Developed source and groundwater characterization data for an historic industrial site contaminated with chlorinated hydrocarbons; developed in-situ and ex-situ remedial options for soil contaminated as hazardous waste; Fort Atkinson, Wisconsin.
- Coordinated investigation and developed remedial options for a former manufactured gas plant site currently used as a bulk propane distribution facility. Marshfield, Wisconsin.
- Performed research and provided expert testimony about the fate and transport of gasoline contaminants released from underground storage tanks allegedly contaminating a private residence. Wisconsin.
- Coordinated and implemented environmental due diligence in preparation for acquisition for poultry processing operations at 90+ facilities. Wisconsin and Minnesota.
- Provided expert testimony at an arbitration hearing on the validity of long-term remedial costs for a landfill (Superfund site) in southeastern Wisconsin. Developed remedial options for several manufactured gas plant sites; New York and Pennsylvania.
- Coordinates groundwater extraction/treatment and monitoring at a plating facility site contaminating groundwater with chromium. Illinois.
- Evaluated applicability of past and future costs to validate insurance claims for remedial action at several landfill sites, Great Lakes States.
- Provided research and expert testimony at deposition for a named party at an NPL site identifying other PRPs from individual waste stream analyses, Wisconsin.
- Directed ROD implemented remedy including a gas extraction system upgrade and point-of-entry water filter installations for private homes.





- Directed work plan development, negotiated USEPA approval, and directed the investigation for an abandoned landfill (NPL site); Tomah, Wisconsin.
- Oversaw design and construction of a landfill gas extraction system for an abandoned sanitary landfill; Tomah, Wisconsin.
- Provided expert testimony at deposition for a machine parts manufacturer evaluating the identification of manufactured gas plant waste disposed on their property; Milwaukee, Wisconsin.
- Provided expert testimony at trial for a paper company providing alternative water supplies for private residences affected by groundwater contamination from an industrial landfill; Eau Claire, Wisconsin.
- Developed strategy for investigating and providing cleanup options for dry-cleaning sites; Stevens Point, Wisconsin.
- Provided Agency negotiation, consultant review and oversight of an investigation and remedial options analysis for an abandoned sanitary landfill; Rice Lake, Wisconsin.
- Directed remedial design and remedial action oversight including final cover and landfill gas control, for an abandoned municipal waste landfill; Wausau, Wisconsin.
- Directed remedial design activities, including final cover and landfill gas control, for an abandoned municipal waste landfill; Rhinelander, Wisconsin.
- Performed a groundwater assessment, negotiated Agency approval for a selected remedial option, and directed construction management of a leachate extraction system for a paper waste landfill; Eau Claire, Wisconsin.
- Directed preparation of design plans and specifications, and construction management for remediation of 200,000 cubic yards of mining wastes under the Wisconsin Environmental Repair Program; Mineral Point, Wisconsin.
- Provided expert testimony at trial for food processing company siting a solid waste disposal facility; case involved potential groundwater contamination from biological residues originating from waste land-spreading.
- Provided expert testimony at deposition for a defendant for insurance claims at a foundry waste site (contaminated with lead); Milwaukee, Wisconsin.
- Prepared and implemented USEPA-approved RCRA facility investigation work plan for a hazardous waste incinerator (CWM Chemical Services); Chicago, Illinois.
- Directed preparation of Plan of Operation for a 3.5 million cubic yard sanitary landfill, including expert testimony before the Waste Facility Siting Board; Madison, Wisconsin.
- Directed preparation of plans and specifications for landfill cover restoration, state Superfund site; Madison, Wisconsin.
- Directed a remedial investigation and feasibility study for groundwater remediation options for an abandoned landfill; Dane County, Wisconsin.
- Directed remedial investigation for a former wood treatment (creosote) facility; Reed City, Michigan.

- Negotiated language for a voluntary consent order and directed investigation for a landfill remedial investigation (PRP group); Madison, Wisconsin.
- Coordinated design and construction of a landfill gas extraction system; Madison, Wisconsin.
- Directed preparation of a Feasibility Study and hydrogeologic assessment for a 1.5 million cubic yard industrial landfill; Wisconsin.
- Coordinated investigations and developed remediation options for several abandoned city sanitary landfills; Madison, Wisconsin.
- Developed a Feasibility Study for a 4 million cubic yard sanitary landfill, and provided expert testimony at a contested-case hearing; Madison, Wisconsin.
- Supervised subsurface investigations and prepared recommendations for remediation of two chlorinated hydrocarbon spill sites; Wisconsin manufacturing facilities.
- Supervised subsurface investigations and prepared hydrogeologic reports for several closed municipal landfill sites; Madison, Wisconsin.
- Prepared RCRA facility investigation work plan for a large military defense contractor (Hamilton Standards); Windsor Locks, Connecticut.
- Developed remediation options for PCB-contaminated soils at an aluminum manufacturing plant; Kentucky.
- Developed an environmental and economic assessment for a county siting a hazardous waste facility; Minnesota.
- Prepared feasibility/plan of operation report for a PCB transformer salvage facility; Juneau, Wisconsin.
- Designed a vacuum extraction system for remediation of an underground gasoline spill at a service station; Madison, Wisconsin.
- Designed and supervised construction of clay-lined earthen impoundments with dewatering facilities for foundry process sludge for a large industrial foundry facility; Defiance, Ohio.
- Devised geotechnical testing programs of various waste materials generated from paper manufacturing processes.
- Provided geotechnical analysis and recommendations for repair of a failure in a clay liner sidewall for a sanitary landfill; Minneapolis.
- Designed and implemented a modified multi-unit triaxial device to study the effects of leachate permeants on clay soils.
- Designed and provided construction documentation, kiln dust disposal facility; Alpena, Michigan.
- Designed and provided construction documentation, sanitary landfill; Minneapolis.
- Designed and provided construction documentation, foundry waste landfill; Milwaukee.
- Performed hydrogeological assessment of a solvent spill for an underground storage tank; South Bend, Indiana.
- Determined stability and projected settlements of embankments for bridge foundation; Idaho.

- Designed foundation and retaining structure recommendations for various commercial, industrial and transportation facilities; Idaho, Oregon and Washington.
- Designed foundation systems for residential, commercial and industrial buildings constructed on problem soils; San Francisco Bay area.
- Developed recommendations for the repair of residential structures damaged by soil expansion and settlement; San Francisco Bay area.
- Analyzed static and dynamic seacliff erosion and provided setback recommendations for a coastal development; Aptos, California.

### Publications and Presentations

Author, "The Results of Treating MGP Generated Tar with an Innovative In-Situ Chemical Oxidation Technology at a former MGP Site in Northern Wisconsin," Remtech09 Conference, 2009

Author, "Strengths of GIS Application on Site Characterization," American Gas Association – MGP Workshop, 2006.

Author, "Characterization and Remedial Action at a Former MGP Adjacent to a Former Wood Treatment Operation," Gas Technology Institute Site Remediation Technologies Conference, 2000.

Co-author, "Isotopic Identification of the source of Methane in Subsurface Sediments of an Area Surrounded by Waste Disposal Facilities," in Applied Geochemistry, USGS, 1998.

Co-author, "Groundwater Remediation at a DeInk Landfill," TAPPI Environmental Conference, 1994.

Author, "Isotope Aging to Determine Methane Gas Sources, Geological Society of America, National Conference, 1992.

Author, "Current Status of Environmental Assessments," Government Institutes Seminar, Madison, 1992.

Author, "RCRA Corrective Action – 1990," paper presented to the Minnesota State Bar Association, Minneapolis, 1990.

Author, "Investigation and Remediation of a Printing Solvent Release," paper presented at the short course Detection and Corrective Action for Leaking Underground Storage Tanks, Department of Engineering-Professional Development, University of Wisconsin, Madison, 1989.

Co-author, "Case Studies in Constructive Use of Foundry Wastes for Landfill Construction," paper presented at the American Foundrymen's Society Casting Conference, 1987.

Author, "Moisture and Saturation Effects on Hydraulic Conductivity Testing," paper presented at the ninth annual Madison Waste Conference, 1986.

Co-author, "Use of Foundry Quenched Slag - Drainage Medium," presented at the 1986 Madison Waste Conference.