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Via Email: laguilar@idem.in.gov

Lauren Aguilar
Rule Development Branch
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RE: LSA Document #13-245 Satellite Manure Storage Structures

Dear Ms. Aguilar:

The Indiana Department of Environmental Management published a first notice of public comment period for rules concerning satellite manure storage structures, LSA Document #13-245, in the Indiana Register on June 26, 2013. The Hoosier Environmental Council, Sierra Club-Hoosier Chapter, and Citizens Action Coalition offer the following comments pursuant to this first notice.

IDEM has identified two alternatives to be considered within the rulemaking: 1) developing requirements for satellite manure storage structures; 2) not doing the rulemaking. We are encouraged that IDEM is proposing to develop new rules (Alternative 1) to carry out the legislative intent of Indiana Code § 13-18-10.5 for protection of water quality and public health from spills and seepage of manure from poorly designed, constructed and maintained satellite manure storage structures (SMSSs). While this is certainly preferable to Alternative 2 (no rulemaking), imposing requirements "similar to those currently established for manure storage structures at confined feeding operations in 327 IAC 19," as IDEM proposes, is not likely to achieve the stated goal of preventing harm to surface and groundwater resources.

Primarily this is due to the fact that, by definition, SMSSs are designed to store enormous quantities of manure - at least one million gallons or 5,000 cubic yards -- and located off-site. Given the growing body of evidence that huge manure lagoons pollute the environment in numerous ways, those in isolated locations are more likely to cause contamination due to leaks and overflows that go unnoticed and unaddressed.

Accordingly, we encourage IDEM to adopt a SMSS rule with more protective safeguards than required for on-site manure storage structures at CFOs as follows:

A. Siting / Setbacks

Under the CFO rule, 327 IAC 19-12-2, IDEM may approve construction of on-site manure storage structures in karst terrain, one hundred (100) year flood plains, and in soil types expected to have a seasonal high water table. The high risk of ground and surface water contamination from storing vast amounts of untreated animal waste in lagoons constructed in off-site locations should not be exacerbated by allowing them to be constructed in places where environmental harm is likely to occur. Consequently, IDEM should propose a rule that prohibits construction of SMSSs in floodplains and wetlands, near water bodies, on sandy soils, drainage wells, karst topography or other areas that provide direct access to groundwater or surface water resources.

To that end, greater setbacks than the CFO rule requires in 327 IAC 19-12-3 should also be imposed for SMSSs for several reasons. Even with a storage capacity that includes expected precipitation and run-off from a 24-hour, 25-year storm event (as required by 327 IAC 19-12-4), several days of rain can compromise the manure storage system, because the steady rainfall weakens berms and prevents the excess wastewater from being sprayed on already saturated fields. Indeed, bursting and overflowing manure lagoons have caused countless environmental disasters all across the country (including in Indiana). Collecting millions of gallons of untreated animal waste in a SMSS located dangerously near a water-body, wetland or other ecologically sensitive area will only increase the likelihood that spills and run-off will cause harm.

Finally, it is well known that pathogens and odors from animal waste can travel distances of 2-3 miles posing serious health risks and reducing quality of life for local residents. Numerous studies have documented high incidences of respiratory illnesses, gastrointestinal illnesses, antibiotic resistant diseases, and even cancer people who live in close proximity to enormous amounts of untreated animal waste collected in manure lagoons. For all of these reasons, we recommend that the SMSS rule impose setbacks consistent with those established in St. Joseph County for protection of public health and the environment:

Public water supply well/surface intake structure	1,500 feet
Surface waters	1,000 feet
Drainage inlets (including sediment basins)	500 feet
Sinkholes	500 feet
Floodplains	500 feet
Water wells	500 feet
Residences and public buildings	3,480 feet
Residentially zoned districts	7,680 feet
Municipalities	10,560 feet

B. Design/Construction and Performance Standards

327 IAC 19-12-4(f) allows for manure storage in "earthen lagoons" which are known to leak and allow seepage of waste pollutants and pathogens into ground water. Even with clay linings, vertical seepage along the bottom of lagoons and vertical and horizontal seepage at the berms still occur. Moreover, cracks are known to occur in lagoon linings that cannot be detected even with visual inspections.

Numerous studies have found seepage from cracking of earthen and clay liners due to wet/dry cycles, the removal of manure from the lagoon, worms, roots, rodents, freeze/thaw cycles, erosion of lagoon berms, agitation during pumping, and liner collapse due to external pressure, and groundwater intrusion. Given the numerous studies from across the nation that have found countless incidents of groundwater contamination near earthen manure-storage structures, they should not be allowed to be constructed for use as SMSSs in Indiana.

To be used as a SMSS, any lagoon or structure otherwise contemplated under 327 IAC 19-12-4 (except earthen lagoons) should be constructed with: groundwater monitors beneath and around to ensure that any possible leaks or spills are detected in a timely fashion; additional storm water requirements based on the assumption that the freeboard requirement will not be monitored as closely as that of an on-site manure storage structure; and requirements for odor control measures and BMPs such as impermeable covers, biofilter controls of covered structures, and pH monitoring and practices to ensure minimum pH conditions in storage of liquid wastes.

The performance standards applicable to waste management systems at CFOs, set forth in 327 IAC 19-3-1, should also apply to SMSSs; that is, they must be designed, constructed, and maintained to minimize leaks and seepage and prevent manure releases or spills, as well as ensure compliance with the water quality standards in 327 IAC 2; and the owner/operator and all users of a SMSS must take all reasonable steps to prevent manure releases, spills or the discharge of manure, including seepage and leakage. Finally, all SMSSs should be certified by a professional engineer that they comply with all applicable requirements and standards for containment design and groundwater protection.

C. Permit Requirements

IDEM should draft a SMSS rule that imposes permitting requirements for each structure, individually, to account for variable conditions, unique soils, nearby water features, and environmental compliance history of the SMSS owner/operator. Each SMSS permit applicant should be subject to mandatory public notice and commenting requirements that allow for meaningful participation by impacted communities. Moreover, the rule should address the likelihood that there will be multiple users of a particular SMSS who could escape accountability for spills and discharges in their use of the SMSS if not

subject to the SMSS's permit requirements. To that end, IDEM should require SMSS permit applicants to provide, among other things, information about:

- the owner/operator and each user of the SMSS including phone number and mailing address;
- the past environmental compliance history of the applicant, owner/operator (if different from the applicant) and each user;
- the physical location and GIS coordinates of the proposed SMSS;
- the amount and type of manure (i.e. swine, cattle, poultry) to be contained and identity of the generating source(s);
- the capacity of the land application area(s), if any, that will accommodate the structure's manure;
- all features of the SMSS for animal waste transfer and associated land application;
- all adjacent landowners and those within one (1) mile of the boundaries of the property on which the SMSS will be located;
- a site plan which includes, at a minimum, locations of ditches and conveyances, surface waters, well heads, hydrologically sensitive and critical areas, a topographic map of the site including any steep slopes or highly erodible land, and all features for the management and containment of waste including buffers, filter strips, discharge locations, as well as a soils map for the SMSS and all associated land application areas;
- a waste storage and management plan (WSMP) that contains: structural engineering requirements including requirements for operation and maintenance, work practices, inspections, record-keeping and reporting, and exertion of due diligence that exceed the requirements of 327 IAC 19-7-5; and work practice and bright line compliance requirements for making land application decisions related to nutrient budgets, manure and soil testing, weather conditions, and runoff avoidance consistent with 327 IAC 19-3-1(f) and 327 IAC 19-14;
- a mandatory groundwater monitoring plan consistent with the requirements of 327 IAC 19-10-1;
- a site-specific storm water management plan exceeding the requirements of 327 IAC 19-11-12;

- an emergency response plan consistent with 327 IAC 19-13-4;
- a closure plan consistent with 327 IAC 19-15-2.

Many Indiana waterways suffer from *E. coli* impairment mostly likely due to mismanaged livestock waste. By our estimates, Indiana's livestock populations produce about 10 times as much coliform bacteria as human populations. Consequently, the waste storage and management plans discussed above should be incorporated as part of the SMSS permit and enforceable by IDEM and private citizens for protection of public health and the environment. In addition, all records that SMSSs' operators and/or users are required to maintain to document compliance should be submitted to IDEM instead of being maintained by the owner/operator, user or "on-site" as allowed under the CFO rule. Merely requiring the SMSS's owner/operator/user to make these records available to IDEM upon request does not ensure that impacted citizens will have access to these records.

D. Procedures for Public Participation Prior to Permit Coverage

People whose property values, water resources, air quality and quality of life will be impacted by the vast amount of untreated animal waste stored at a proposed SMSS and land applied nearby have a right to participate, meaningfully, in the permitting of that SMSS. The impacted community should be provided with opportunities to participate in reviewing and commenting on all permit application documents. Public notice procedures should be required as an element of permit approval as follows:

- Applicants must place a sign visible to the public from a public road at or near the entrance to property where a SMSS will be located that notifies the public that a complete application has been submitted to IDEM;
- Applicants will be required to place a complete copy of the draft permit application either in the nearest public library or nearest township or municipal government office at the time of the public notice;
- Applicants must show they have transmitted a copy of the official public notice with the pending public comment period deadline indicated not later than 2 days after publication of the state public notice to:
 - Property owners adjacent to and within one (1) mile of the SMSS's property boundaries and that of associated land application areas;
 - The county executive of the county in which the SMSS is to be located;
 - The principle responsible officer of any municipal and/or private drinking water system with surface water intakes within 30 miles downstream in the

respective watershed where the SMSS and associated land application areas are located;

- All persons on a list of interested parties provided and maintained by IDEM.
- IDEM should accept, consider and respond to public comments received during a minimum 30-day comment period which is triggered with publication and mailing of public notice;
- Public hearings (not meetings) should be held when permit applications draw significant public opposition or concern

We strongly urge IDEM to proceed with rulemaking for satellite manure storage structures that goes beyond what is required for on-site manure storage structures at CFOs. We also recommend establishing a workgroup comprised of stakeholder representatives to assist with this rulemaking.

Thank you for considering our comments.

Sincerely,



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