

ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
AMENDMENTS TO LIVESTOCK)
WASTE REGULATIONS) R01-28
(35 ILL. ADM. CODE 506)) (Rulemaking-Land)

**TESTIMONY REGARDING AMENDMENTS TO THE LIVESTOCK
WASTE REGULATIONS**

My name is Warren Goetsch and I am employed by the Illinois Department of Agriculture as Division Manager for the Division of Natural Resources. As Division Manager, I am responsible for the program areas of the Department dealing with natural resource protection, prime farmland protection, regulation of pesticide applicators, pesticide registration, agrichemical facility containment, plant nursery inspections, and livestock waste regulations. I was raised on a farm in central Illinois. After graduation from the University of Illinois with a Master's Degree in Agricultural Engineering, I was employed by the University of Illinois Extension Service where I worked with livestock producers, specializing in building design and operation. I hold a Professional Engineer license. My involvement with the Livestock Management Facilities Act began with the inception of the Act.

On May 21, 1996, Public Act 89-456 created the Livestock Management Facilities Act (LMFAct) (510 ILCS 77). The LMFAct set forth requirements for the siting, construction, and operation of livestock management and waste handling facilities. While many provisions of the LMFA required no further regulatory implementation, the LMFAct recognized that some provisions would need regulatory implementation. To this end, the LMFAct required the Department to proposed rules to the Board based on recommendations from a Livestock

Management Facility Advisory Committee (Advisory Committee). On November 21, 1996, the Department timely submitted rules to the Board. On May 15, 1997, the Board adopted those rules for implementation by the Department. Provisions in Part 506 include standards for the construction of livestock waste lagoons, the development of waste management plans, the certification of livestock managers, and the implementation of setback distances. Rules for lagoon financial surety were adopted in a separate rulemaking. See *In re Livestock Waste Regulations*, 35 Ill. Adm. Code 506 (November 12, 1998), R97-15(B).

Since the adoption of the Part 506 rules, the legislature amended the LMFAct (see Pub. Act 90-565, effective January 2, 1998; Pub. Act 91-110, eff. July 13, 1999). Changes to LMFAct included the following requirements for lagoons: secondary containment; public informational meetings; waste release reporting; increased inspections; and odor control. Other changes involved the following: notice of intent to construct filing; construction plan filing and approval for non-lagoon facilities; public informational meetings for non-lagoon facilities; increased construction standards in environmentally sensitive areas; waste release reporting for non-lagoon facilities; animal unit threshold reduction for waste management plan compliance; and the inclusion of a phosphorus standard for livestock waste application areas.

A further change as a result of Public Act 91-110 involved the development of regulations to implement the LMFAct. Pursuant to Section 55 of the LMFAct (510 ILCS 77/55), the Board is required to adopt rules for the implementation of design and construction standards for livestock waste handling facilities, based on a proposal from the Department. The Department, in conjunction with the Advisory Committee, is required to develop and adopt rules for the implementation of all other aspects of the Act.

After several meetings of the Advisory Committee involving livestock industry and environmental group representatives, the Department on December 17, 1999, issued a first-notice

proposal for the implementation of the Act, excluding design and construction standards for livestock waste handling facilities. The Board's Part 506 rules served as guidance for the requirements other than construction standards. Following hearings and the receipt of public comments, the Department made substantial changes to the proposed rules, which prompted a second comment period. Following the second comment period, the Department issued a second-notice proposal for the implementation of the LMFA. The second-notice proposal, was considered by the Joint Committee on Administrative Rules on October 17, 2000. The final rules were filed on November 30, 2000 with the Secretary of State's Office and became effective on January 1, 2001. These rules can be found at 8 Ill. Adm. Code 900.

On January 1, 2001, the Department and the Board each had rules implementing the some of the same provisions of the LMFA. In order to avoid two State agencies having duplicative and conflicting rules implementing certain provisions of the LMFA, the Department on December 4, 2000, proposed to the Board an emergency rulemaking to repeal or amend the language in the Board's Part 506 rules that duplicated or conflicted with the language at 8 Ill. Adm. Code 900. On December 21, 2000, the Board concluded that an emergency situation did not exist to justify the emergency adoption of amendments to Part 506. *In re Livestock Waste Regulations, 35 Ill. Adm. Code 506* (December 21, 2000), R01-18. In reaching this conclusion the Board determined that while the Board and the Department may have duplicate rules for several months pending the completion of the rulemaking, the regulated industry had worked closely with the Department in the development of the 8 Ill. Adm. Code 900 rules, and there would not likely be any confusion that would follow from the two sets of rules. The emergency rulemaking has since been dismissed by the Board as unnecessary, since the proposed rulemaking incorporated the amendments proposed in the emergency rulemaking.

Concurrent with the development of the 8 Ill. Adm. Code 900 rules, the Advisory

Committee also considered proposals for regulations dealing with the construction of lagoon and non-lagoon livestock waste handling facilities. Since the current rules in 35 Ill. Adm. Code 506 contain design and construction standards for lagoons, these rules were used as a guide for the development of the proposed construction standards that are part of this proposed rulemaking. The proposed rulemaking contains construction standards for lagoon and non-lagoon livestock waste handling facilities, as well as repealing and amending certain other provisions.

II. THE PROPOSED RULES

The current 35 Ill. Adm. Code 506 rules contain Subparts A through G, plus an appendix of financial forms. The proposed rule contains three subparts, A through C, comprising general provisions, construction standards for livestock lagoons, and construction standards for livestock waste facilities other than lagoons.

SUBPART A: GENERAL PROVISIONS

Subpart A provided the definitions, incorporations by reference, and other general items applicable to the entire rule. Since 8 Ill. Adm. Code 900 now contains several aspects of the current 35 Ill. Adm. Code 506, including waste management plans, certified livestock manager, financial responsibility, and setbacks, the applicability language for these particular subparts is proposed to be eliminated in Section 506.101. Subpart A will remain as general provisions, Subpart B will remain as design and construction standards for lagoons, and Subpart C will be changed from waste management plans to design and construction standards for livestock waste handling facilities other than lagoons.

With the proposed deletion of language from the existing rule, some defined terms that are no longer referenced are proposed for deletion. The definition of certain terms were expanded in 8 Ill. Adm. Code 900 as a result of statutory changes and the rulemaking process. To maintain consistency between the two rules, the definitions contained in 8 Ill. Adm. Code 900

have been included in Part 506. Specifically, the terms “animal unit”, “livestock waste handling facility”, and “new facility” have been modified. The terms “flood fringe”, “floodplain”, “floodway”, “karst area”, “karstified carbonate bedrock”, “livestock shelter”, and “void” have been added.

“Animal unit” was expanded in Part 900 to include a factor for laying hens and broilers at facilities that do not have continuous overflow watering or a liquid manure handling system. These technologies are used very little in today’s poultry production and, therefore, a new general factor was needed. Most poultry manure is handled in a relatively dry condition. A method to determine an animal unit factor for other species of animals that are not specifically listed was also needed. Occasionally, the Department would receive inquiries for other species of animals that were to be raised in a confinement-type operation. This addition would allow the Department, in consultation with the University of Illinois Extension Service, to determine an appropriate animal unit factor for virtually any species.

Language was added to the definition of “livestock waste handling facility” to duplicate the exemptions that are currently in the definition of “livestock management facility.” Since a livestock management facility and a livestock waste handling facility usually coexist, it appeared appropriate to allow the same exemptions for livestock waste handling facilities as was allowed statutorily for livestock management facilities.

The addition to the definition of “new facility” was obtained from Section 13(k) of the Act. Due to the wording of the statutory language, the Department distinguished between facilities based on the date of operation cessation. Since the requirements of Section 13(k) of the Act were not in effect prior to July 13, 1999, facilities that ceased operation prior to that date would not have had the opportunity to comply with regulations that were not yet in effect.

With the addition of language in the Act restricting the construction of facilities in

floodplains, definitions of “floodway”, “floodplain”, and “flood fringe” were needed. To maintain some consistency among regulations, the proposed definitions in Part 506 were obtained from the Rivers, Lakes and Streams Act [615 ILCS 5] and the rules promulgated thereunder (17 Ill. Adm. Code 3708). The definitions in this proposal are identical to those promulgated in Part 900.

“Karst area” and “karstified carbonate bedrock” definitions were obtained from the Act. The definition of “livestock shelter” was obtained from 35 Ill. Adm. Code 501.290. A definition of “void” was needed as part of the site investigation that is to occur prior to construction to determine the occurrence of karst topography on a site-specific basis which, if detected, would require additional design and construction criteria.

Section 506.104, Incorporations by Reference, was updated to include more recent standards publications, a map of karst areas from the Illinois State Geological Survey, and construction standard references for non-lagoon facilities. The language dealing with recordkeeping (Section 506.105) has been included in Part 900 (Section 900.105) and therefore has been proposed for deletion in Part 506.

SUBPART B: STANDARDS FOR THE DESIGN AND CONSTRUCTION OF LIVESTOCK WASTE LAGOONS

Subpart B of the existing Part 506 rule provided the design standards for the construction of lagoons, including a site investigation, liner standards, monitoring wells, certifications, closure, and ownership transfer. This existing language was utilized as the basis for the proposed rules. In many cases, language from the existing rule was used and was not changed in the proposed rule. A portion of the existing language has been proposed for repeal since it has been included in Part 900.

The Applicability section of the proposed rule (Section 506.201) provides a specific date

when these regulations would become effective. The Department proposes that any lagoon for which the construction plan had not been approved by the Department prior to the effective date of this amendment to the rules would be subject to these requirements. This would prevent a facility owner who had reached a certain stage in the process from being required to possibly begin again. Subsection (c) of the Applicability section dealing with “grandfathering in” previously registered lagoons is repeated in Part 900 (Section 900.601(b)) and, therefore, has been deleted in this proposal.

Section 506.202, Site Investigation, has been expanded to include additional restrictive areas that are listed in the Act. In addition to the 50 foot boring, the presence or absence of a floodplain and a karst area is to be determined. Additional design and construction requirements are needed if the proposed lagoon is to be located in or near these areas. The location of these additional requirements is referenced in the respective sections.

A procedure was needed to determine, on a site specific basis, whether a proposed livestock facility was located in a karst area where additional construction specifications would be required. If the results of the soil boring from the site investigation indicates that a karst area is present or if the proposed location is within a “sink hole area” as delineated on the IDNR- ISGS Map 8, then the professional engineer or geologist must evaluate the results of the soil boring. If a void of one foot or greater in vertical distance is detected from the soil boring, then additional design requirements as deemed necessary by the engineer and approved by the Department must be incorporated into the facility design. Whether a void of at least one foot is discovered or not, the additional design requirements as listed in Section 506.207 must be incorporated into the facility design.

The requirements for lagoon registration (Section 506.203) are included in Section 900.603 of Part 900 and, therefore, have been proposed for deletion in Part 506.

The lagoon design standards (Section 506.204) have been changed very little compared to the existing rule, with the exception of updating references, adding statutory language, and deleting an operational requirement which has been added to the Part 900 rule. The statutory requirement pertaining to the livestock waste supply line positioned below the minimum design volume level was added to Section 506.204(g)(8). Since the requirement to add water to at least 60% of the design volume of a lagoon prior to the addition of waste was considered to be an operational item rather than a design specification, this requirement was incorporated into Part 900. Similarly, Section 506.205 Liner Standards, has been changed to update references.

Section 506.206, Groundwater Monitoring, originally contained construction standards and also operational requirements. The Department has included the operational requirements as a portion of Section 900.611, and therefore, this language has been proposed for deletion. The language dealing with the positioning of the wells was modified for clarity and the size of the screened interval and the positioning of the sand pack was altered to allow for greater flexibility.

Section 506.207 contains additional requirements for lagoons that are proposed to be constructed in a karst area. In addition to the additional design requirements submitted by the engineer if a void is discovered in a karst area, all lagoons must be designed and constructed utilizing a rigid material for the portion of the lagoon below the natural soil surface.

Section 506.208, Construction in a Flood Fringe Area, contains additional design and construction requirements if a lagoon construction is proposed in a flood fringe area. Design criteria are proposed to ensure that livestock waste will not be readily removed during a flood event. Hydrostatic pressures from floodwaters must be withstood by the berms, a two foot freeboard above the level of a 100-year flood must be incorporated, and the lagoon must be oriented to minimize impacts from flowing water.

Section 506.210, Secondary Containment, expands upon the statutory requirement for

additional structures to ensure that a release from a lagoon does not encroach upon land other than the land occupied by the livestock waste handling facility of which the lagoon is a part, does not enter waters of the state, or does not enter a natural depression in a karst area. Options, as listed in the Act, are presented with specifications for each. A grass waterway may transfer livestock waste to a structure that can retain or process the waste, such as a filter strip, terrace, or secondary berm.

The remainder of the language from the existing Part 506 Subpart B has been incorporated into the Part 900 rule.

SUBPART C: STANDARDS FOR THE DESIGN AND CONSTRUCTION OF LIVESTOCK WASTE HANDLING FACILITIES OTHER THAN LAGOONS

Subpart C of the existing Part 506 contained the requirements for the development and implementation of waste management plans. These provisions have been incorporated into Subpart H of the Part 900 rule and, therefore, have been proposed for deletion. Subpart C of the proposed Part 506 now contains construction standards for non-lagoon facilities. These requirements were also developed in consultation with the Livestock Management Facility Advisory Committee with input from livestock producer groups and concerned citizen groups.

The intent of the proposal is to require a site investigation for the newly constructed components of “new” livestock waste handling facilities to determine whether aquifer material would be present within five feet of the planned bottom of the facility, whether the facility would be located in a portion of a 100-year floodplain, and whether the facility would be located in a karst area. These conditions are listed in Section 13(b) of the Act. If any of these conditions are met, additional design and construction requirements would be required. These additional requirements are listed in Sections 506.310, 506.311, and 506.312.

Waste volume requirements and general design and construction standards are applicable

to all newly constructed components of all livestock waste handling facilities, whether the base facility is “new” or existing. Standards are also listed for the various types of materials that may be utilized in the construction of waste storage structures.

Section 506.301 describes the applicability of this subpart, which was discussed earlier. An effective date based on design approval by the Department was incorporated into this subpart. This aspect would allow consistency among Subparts B and C and would also provide livestock producers with a reasonable threshold of regulation effective date.

Section 506.302 lists the requirements for a site investigation. The site investigation procedures for lagoon facilities were used as a guide for the development of this section. The investigation is required to include an area five feet below the bottom of the facility for the determination of aquifer material based on Section 13(b)(3) of the Act. As noted above, additional design and construction standards are required for facilities where aquifer material is encountered within 5 feet of the proposed bottom and where the facility is proposed to be located in the flood fringe of a 100-year floodplain. The additional requirements are found in Section 506.310 for shallow aquifer material and Section 506.311 for a flood fringe area.

A procedure has been proposed to determine the presence of a karst area on a site specific basis. If the proposed facility is to be located in a karst area as determined by the IDNR-ISGS Map 8 or the results of the site investigation for the determination of aquifer material, the Department must conduct an inspection for natural depressions and the owner or operator must perform additional soil borings to a depth of at least 20 feet below the planned bottom of the livestock waste handling facility. These soil borings are for the determination of voids. If voids of one foot or greater in vertical distance are discovered, then further design and construction criteria are required in addition to those listed in Section 506.312. If no voids of one foot or greater are discovered, then only the requirements of Section 506.312 are required. In all cases,

however, the general construction standards and material-specific standards must be incorporated into the design.

Manure storage volume requirements are listed in Section 506.303. The statutory requirement of 150 days of storage for facilities that handle manure in a liquid form has been incorporated into the rule. Also included are runoff volumes and a freeboard if precipitation enters the structure. These requirements have also been extended to facilities that store manure in a semi-solid form. The statutory requirement for storage of solid manure generated during six months of operation has been included in the rule. A staff gauge is also required for structures that must incorporate a freeboard into the design.

Section 506.304 contains the general design and construction standards that are to be applied to all facilities where applicable. Many of the standards and specifications were obtained from publications from MidWest Plan Service and the American Society of Agricultural Engineers, which are referenced in the Act. Specifications for other specific applications, such as the storage of solid or semi-solid manure, were obtained from USDA-NRCS publications. To be consistent with the hydraulic conductivity requirements of lagoon liners, a hydraulic conductivity of 1×10^{-7} centimeters per second or less for storage and transport surfaces, except those constructed of concrete, is proposed. Since questions arose over the practicality of achieving such a hydraulic conductivity with concrete while still maintaining structural integrity, the conductivity for concrete is proposed at 1×10^{-6} centimeters per second or less. Subsurface drain lines currently located around the facility must be removed or relocated to provide at least 50 feet of separation distance between the drain line and the livestock waste handling facility. Separation distances between facilities and wells and other potential routes of groundwater contamination must be at least 100 feet. References are listed for obtaining information pertaining to the design of various types of livestock waste storage structures and handling

facilities. To protect the integrity of the waste storage structure in areas where the seasonal water table may be high, a requirement to add perimeter foundation drainage tubing around footings of the facility has been proposed.

Sections 506.305 through 506.309 contain additional specifications for specific types of construction media. Construction joints and water stops are required when concrete is utilized. The concrete must meet certain minimum strength requirements and the concrete reinforcement characteristics must be in accordance with MidWest Plan Service specifications. All sections allow for modifications of the standards if a certification from a Licensed Professional Engineer or Geologist determines that the modification is at least as protective of the groundwater, surface water, and structural integrity of the livestock waste management facility as the stated requirements.

Additional requirements are also listed for facilities constructed of metal, synthetic material, and wood. For facilities constructed of earth, compaction must be adequate and a minimum berm top width and slope of sides is proposed. Section 506.307 also proposes a hydraulic conductivity for earthen floors of deep bedded livestock systems and poultry litter systems.

Increased construction standards are required for facilities proposed to be located within 5 feet of aquifer material (Section 506.310). These include greater concrete thickness and the installation of a liner if the storage facility is to be constructed of earthen materials. The liner may be constructed of either earthen or synthetic materials. A certification from a Licensed Professional Engineer is required for liners. In-ground facilities must include perimeter drainage tubing and have the effluent from the tubing sampled according the requirements contained in Part 900.

Section 506.311 lists additional requirements for facilities in the flood fringe of a 100-

year floodplain. Included are design specifications, orientation requirements, and elevation benchmarks. These requirements are consistent with those pertaining to lagoons that may be constructed in a flood fringe.

Rigid construction material requirements for facilities proposed to be constructed in a karst area are provided in Section 506.312.

SUBPARTS D THROUGH G AND APPENDIX A

Subpart D of the existing Part 506 provided the details pertaining to the certified livestock manager requirement. Subpart E contained one section for general penalties. Subpart F outlined the financial responsibility for lagoons, while Subpart G provided the requirements for setbacks, including the notice of intent to construct provision. Appendix A contained illustrations of a surety bond and a standby letter of credit. Since all of these Subparts pertain to aspects which are included in the recently promulgated Part 900, the existing language in Part 506 has been proposed for deletion.

This concludes my pre-filed testimony regarding the Department's proposed amendments to 35 Illinois Administrative Code 506. In summary, the Department has attempted to balance appropriate environmental protection with the economic viability of the livestock industry. We received very constructive guidance from the members of the Livestock Management Facilities Advisory Committee as well as various interest groups. We believe that this rule proposal, coupled with the recently adopted Part 900 Rules will implement the Livestock Management Facilities Act in a way which is consistent with the mandate given us by the Illinois General Assembly and Governor George Ryan.