

ILLINOIS POLLUTION CONTROL BOARD

March 20, 1997

IN MATTER OF: )  
 )  
EMERGENCY RULEMAKING: ) R97-14  
LIVESTOCK WASTE REGULATIONS 35 ) (Rulemaking - Emergency)  
ILL. ADM. CODE 505 )

ADOPTED EMERGENCY RULE EXTENSION. SUPPLEMENTAL FINAL ORDER.

OPINION AND ORDER OF THE BOARD (by G.T. Girard, C.A. Manning, R.C. Flemal):

On October 29, 1996, the Board found that: "the construction and operation of large livestock management facilities without specifically required and enforceable design standards constitutes 'a threat to public interest, safety or welfare' to the citizens of the State of Illinois." (R97-14, Emergency Rulemaking: Livestock Waste Regulations 35 Ill. Adm. Code 505, (October 29, 1996) at 6.) Therefore, on that date, the Board adopted an emergency rule to implement provisions of the Livestock Management Facilities Act (LMFAct) (P.A. 89-456, eff. May 21, 1996). Pursuant to Section 5-45 of the Illinois Administrative Procedure Act (APA) (5 ILCS 100/5-45), the rule is effective "for a period of not longer than 150 days". The Board filed the rule, with the Secretary of State's Administrative Code Division on October 31, 1996; thus, the rule will expire by March 30, 1997.

On December 5, 1996, the Board adopted a first notice opinion and order in the permanent rules which will replace these emergency rules adopted on October 29, 1996. (In the matter of: Livestock Waste Regulations 35 Ill. Adm. Code 506, (December 5, 1996).) The Board adopts, by separate order today, the second notice of the permanent rule. However, the Board will be unable to adopt the permanent rules as final until near the end of May 1997. Thus, the emergency rule will expire almost two months prior to the adoption of the permanent rules.

Pursuant to Section 5-45 of the APA, in general, an emergency rule may not be adopted more than once in any 24 month period. However, on February 21, 1997 P.A. 89-714 became effective. P.A. 89-714 exempts emergency rules adopted by the Board prior to July 1, 1997 which implement the LMFAct from the prohibition contained in Section 5-45 of the APA. Therefore, to insure that there is no gap between the emergency rules promulgated by the Board to implement the LMFAct and the permanent rules to do the same, the Board readopts the emergency rules which were adopted on October 29, 1996. These rules will be effective until such date as the permanent rules are adopted. For a more thorough discussion of these rules, we refer you to the Board's October 29, 1996, opinion in this matter.

ORDER

The Board directs the Clerk to cause the filing of the following emergency rule with the Secretary of State Administrative Code.

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE E: AGRICULTURE RELATED POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD

PART 505  
LIVESTOCK WASTE REGULATIONS

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AUTHORITY: Authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/27] and implementing the Livestock Management Facilities Act [P.A. 89-456, effective May 21, 1996, 510 ILCS 77/1 *et seq.*].

SOURCE: Emergency amendment adopted in R97-14 at 20 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

NOTE: Capitalization denotes statutory language.

Section 505.101 Applicability

This Subpart shall apply to 35 Ill. Adm. Code 505. The applicability of Subpart B, Standards for Livestock Waste Lagoons, is set forth in Section 505.201 of this Part. The applicability of Subpart C, Waste Management Plans, is set forth at Section 505.302 of this Part. The applicability of Subpart D, Certified Livestock Manager, is set forth at Section 505.401 of this Part.

Section 505.102 Severability

If any provision of this Part or its application to any person or under any other circumstances is adjudged invalid, such adjudication does not affect the validity of this Part as a whole or of any portion not adjudged invalid.

Section 505.103 Definitions

Except as stated in this Section, or unless a different meaning of a word or term is clear from the context, the definition of words or terms in this Part shall be the same as that applied to the same words or terms in the Environmental Protection Act (415 ILCS 5) or the Livestock Management Facilities Act (510 ILCS 77). For the purposes of this Part, the terms included herein shall have their associated meaning as follows:

“Agency” means the Illinois Environmental Protection Agency.

“Animal feeding operation” means a feeding operation as defined in the Illinois Environmental Protection Act and the rules promulgated under that Act concerning agriculture related pollution.

“ANIMAL UNIT” MEANS A UNIT OF MEASUREMENT FOR ANY ANIMAL FEEDING OPERATION CALCULATED AS FOLLOWS:

- 1) BROOD COWS AND SLAUGHTER AND FEEDER CATTLE MULTIPLIED BY 1.0.
- 2) MILKING DAIRY COWS MULTIPLIED BY 1.4.
- 3) YOUNG DAIRY STOCK MULTIPLIED BY 0.6.
- 4) SWINE WEIGHING OVER 55 POUNDS MULTIPLIED BY 0.4.
- 5) SWINE WEIGHING UNDER 55 POUNDS MULTIPLIED BY 0.03.
- 6) SHEEP, LAMBS, OR GOATS MULTIPLIED BY 0.1.
- 7) HORSES MULTIPLIED BY 2.0.
- 8) TURKEYS MULTIPLIED BY 0.02.
- 9) LAYING HENS OR BROILERS MULTIPLIED BY 0.01 (IF THE FACILITY HAS CONTINUOUS OVERFLOW WATERING).
- 10) LAYING HENS OR BROILERS MULTIPLIED BY 0.03 (IF THE FACILITY HAS A LIQUID MANURE HANDLING SYSTEM).
- 11) DUCKS MULTIPLIED BY 0.02.

(510 ILCS 77/10.10.)

“Aquifer material” means carbonate or sandstone bedrock of any thickness; or sand or sand and gravel, as defined herein, such that there is at least two feet or more present within any five foot section of a soil boring performed in accordance with Section 505.202 of this Part.

“CERTIFIED LIVESTOCK MANAGER” MEANS A PERSON THAT HAS BEEN DULY CERTIFIED BY THE DEPARTMENT AS AN OPERATOR OF A LIVESTOCK WASTE HANDLING FACILITY. (510 ILCS 77/10.15.)

“DEPARTMENT” MEANS THE ILLINOIS DEPARTMENT OF AGRICULTURE. (510 ILCS 77/10.20.)

“FARM RESIDENCE” MEANS ANY RESIDENCE ON A FARM OWNED OR OCCUPIED BY THE FARM OWNERS, OPERATORS, TENANTS, OR SEASONAL OR YEAR-ROUND HIRED WORKERS. FOR PURPOSES OF THIS DEFINITION, A “FARM” IS THE LAND, BUILDINGS, AND MACHINERY USED IN THE COMMERCIAL PRODUCTION OF FARM PRODUCTS, AND "FARM PRODUCTS" ARE THOSE PLANTS AND ANIMALS AND THEIR PRODUCTS WHICH ARE PRODUCED OR RAISED FOR COMMERCIAL PURPOSES AND INCLUDE BUT ARE NOT LIMITED TO FORAGES AND SOD CROPS, GRAINS AND FEED CROPS, DAIRY AND DAIRY PRODUCTS, POULTRY AND POULTRY PRODUCTS, LIVESTOCK, FRUITS, VEGETABLES, FLOWERS, SEEDS, GRASSES, TREES, FISH, HONEY AND OTHER SIMILAR PRODUCTS, OR ANY OTHER PLANT, ANIMAL, OR PLANT OR ANIMAL PRODUCT WHICH SUPPLIES PEOPLE WITH FOOD, FEED, FIBER, OR FUR. (510 ILCS 77/10.23.)

“LAGOON” or “Earthen livestock waste lagoon” MEANS ANY EXCAVATED, DIKED, OR WALLED STRUCTURE OR COMBINATION OF STRUCTURES DESIGNED FOR BIOLOGICAL STABILIZATION AND STORAGE OF LIVESTOCK WASTES. A LAGOON DOES NOT INCLUDE STRUCTURES SUCH AS MANUFACTURED SLURRY STORAGE STRUCTURES OR PITS UNDER BUILDINGS AS DEFINED IN RULES UNDER THE ENVIRONMENTAL PROTECTION ACT CONCERNING AGRICULTURE RELATED POLLUTION. (510 ILCS 77/10.25.)

“LICENSED PROFESSIONAL ENGINEER” MEANS A PERSON, CORPORATION OR PARTNERSHIP LICENSED UNDER THE LAWS OF THE STATE OF ILLINOIS TO PRACTICE PROFESSIONAL ENGINEERING. (415 ILCS 5/57.2.)

“LIVESTOCK MANAGEMENT FACILITY” MEANS ANY ANIMAL FEEDING OPERATION, LIVESTOCK SHELTER, OR ON-FARM MILKING AND ACCOMPANYING MILK-HANDLING AREA. TWO OR MORE LIVESTOCK MANAGEMENT FACILITIES UNDER COMMON OWNERSHIP, WHERE THE FACILITIES ARE NOT SEPARATED BY A MINIMUM DISTANCE OF 1/4 MILE, AND THAT SHARE A COMMON LIVESTOCK WASTE HANDLING FACILITY SHALL BE CONSIDERED A SINGLE LIVESTOCK MANAGEMENT FACILITY. A LIVESTOCK

MANAGEMENT FACILITY AT EDUCATIONAL INSTITUTIONS, LIVESTOCK PASTURE OPERATIONS, WHERE ANIMALS ARE HOUSED ON A TEMPORARY BASIS SUCH AS COUNTY AND STATE FAIRS, LIVESTOCK SHOWS, RACE TRACKS, AND HORSE BREEDING AND FOALING FARMS, AND MARKET HOLDING FACILITIES ARE NOT SUBJECT TO THE Livestock Management Facility Act or the requirements of this Part. (510 ILCS 77/10.30.)

“LIVESTOCK WASTE” MEANS LIVESTOCK EXCRETA AND ASSOCIATED LOSSES, BEDDING, WASH WATERS, SPRINKLING WATERS FROM LIVESTOCK COOLING, PRECIPITATION POLLUTED BY FALLING ON OR FLOWING ONTO AN ANIMAL FEEDING OPERATION, AND OTHER MATERIALS POLLUTED BY LIVESTOCK. (510 ILCS 77/10.35.)

“LIVESTOCK WASTE HANDLING FACILITY” MEANS INDIVIDUALLY OR COLLECTIVELY THOSE IMMOVABLE CONSTRUCTIONS OR DEVICES, EXCEPT SEWERS, USED FOR COLLECTING, PUMPING, TREATING, OR DISPOSING OF LIVESTOCK WASTE OR FOR THE RECOVERY OF BY-PRODUCTS FROM THE LIVESTOCK WASTE. TWO OR MORE LIVESTOCK WASTE HANDLING FACILITIES UNDER COMMON OWNERSHIP AND WHERE THE FACILITIES ARE NOT SEPARATED BY A MINIMUM DISTANCE OF 1/4 MILE SHALL BE CONSIDERED A SINGLE LIVESTOCK WASTE HANDLING FACILITY. (510 ILCS 77/10.40.)

“MODIFIED” MEANS STRUCTURAL CHANGES TO A LAGOON THAT INCREASE ITS VOLUMETRIC CAPACITY. (510 ILCS 77/10.43.)

“NEW FACILITY” MEANS A LIVESTOCK MANAGEMENT FACILITY OR A LIVESTOCK WASTE HANDLING FACILITY THE CONSTRUCTION OR EXPANSION OF WHICH IS COMMENCED ON OR AFTER THE EFFECTIVE DATE OF THE Livestock Management Facility ACT. EXPANDING A FACILITY WHERE THE FIXED CAPITAL COST OF THE NEW COMPONENTS CONSTRUCTED WITHIN A 2-YEAR PERIOD DOES NOT EXCEED 50% OF THE FIXED CAPITAL COST OF A COMPARABLE ENTIRELY NEW FACILITY SHALL NOT BE DEEMED A NEW FACILITY AS USED IN THE Livestock Management Facility ACT. (510 ILCS 77/10.45.)

“NON-FARM RESIDENCE” MEANS ANY RESIDENCE WHICH IS NOT A FARM RESIDENCE. (510 ILCS 77/10.47.)

“OWNER OR OPERATOR” MEANS ANY PERSON WHO OWNS, LEASES, CONTROLS, OR SUPERVISES A LIVESTOCK MANAGEMENT

FACILITY OR LIVESTOCK WASTE-HANDLING FACILITY. (510 ILCS 77/10.50.)

“PERSON” MEANS ANY INDIVIDUAL, PARTNERSHIP, CO-PARTNERSHIP, FIRM, COMPANY, CORPORATION, ASSOCIATION, JOINT STOCK COMPANY, TRUST, ESTATE, POLITICAL SUBDIVISION, STATE AGENCY, OR ANY OTHER LEGAL ENTITY OR THEIR LEGAL REPRESENTATIVE, AGENT, OR ASSIGNS. (510 ILCS 77/10.55.)

“Placed in service” means the placement of livestock waste in a livestock waste lagoon upon the completion of construction or modification in accordance with the requirements of this Part.

“POPULATED AREA” MEANS ANY AREA WHERE AT LEAST 10 INHABITED NON-FARM RESIDENCES ARE LOCATED OR WHERE AT LEAST 50 PERSONS FREQUENT A COMMON PLACE OF ASSEMBLY OR A NON-FARM BUSINESS AT LEAST ONCE PER WEEK. (510 ILCS 77/10.60.)

“Sand” means unconsolidated materials where 70% or more of the particles are of size 0.05 millimeters to 2.00 millimeters, which according to USDA soil texture classification scheme includes soil textures of sand, and loamy sand, and portions of sandy loam and sandy clay loam textures.

“Sand and gravel” means unconsolidated materials that contain a matrix (particles of 2 mm or less) that is consistent with the above definition of “sand” and particles larger than two millimeters in size.

#### Section 505.104 Incorporations by Reference

- a) The Board incorporates the following materials by reference:
  - 1) ASAE. American Society of Agricultural Engineers, 2950 Niles Road, St. Joseph, MI 49085-9659 (616) 429-5585, “Design of Anaerobic Lagoons for Animal Waste Management”, ASAE Standards 1992, ASAE EP403.1, 1992, pp. 498-500.
  - 2) MWPS. MidWest Plan Service, Iowa State University, Ames, Iowa 50011-3080 (515) 294-4337, “Livestock Waste Facilities Handbook”, MWPS-18, 3<sup>rd</sup> Edition, 1993.
  - 3) USDA-NRCS. United States Department of Agriculture - Natural Resources Conservation Service, 1902 Fox Drive, Champaign, IL 61820, “Waste Treatment Lagoon”, Illinois Field Office Technical Guide, Section IV, IL359, 5p.

- 4) University of Illinois at Urbana-Champaign, Office of Agricultural Communications and Education, 67X Mumford Hall, 1301 West Gregory Drive, Urbana, Illinois 61801 (217) 333-2007, "Illinois Agronomy Handbook 1995-1996", Circular 1333, 1994, 201 p.
- b) This Section incorporates no later amendments or editions.

#### SUBPART B: STANDARDS FOR LIVESTOCK WASTE LAGOONS

##### Section 505.201 Applicability

- a) This Subpart applies to any lagoon that:
  - 1) Is located at a livestock management facility that has a maximum design capacity of 300 animal units or more; and
  - 2) Is new or modified and has not been placed in service as of the effective date of this Part.
- b) For the purposes of this Subpart the number of animal units at a livestock management facility is the one-time maximum design capacity of that livestock management facility.

##### Section 505.202 Site Investigation

- a) The owner or operator of a livestock waste lagoon shall conduct a site investigation in accordance with the requirements of this Section to determine if aquifer material is present (or not present) within 50 feet of the planned bottom of the lagoon.
- b) The owner or operator shall, at a minimum, perform one or more soil borings to determine the presence of aquifer material as follows:
  - 1) The soil boring shall extend to a depth that includes 50 feet from the bottom of lagoon native soil or to bedrock;
  - 2) If bedrock is encountered, additional soil borings may be necessary to verify the presence of aquifer material; and
  - 3) Soil borings shall be continuous to ensure that no gaps appear in the sample column.



- c) THE OWNER OR OPERATOR OF THE EARTHEN LIVESTOCK LAGOON MAY, WITH APPROVAL FROM THE DEPARTMENT, MODIFY OR EXCEED THESE STANDARDS IN ORDER TO MEET SITE SPECIFIC OBJECTIVES. (510 ILCS 77/15(a).)
- d) The site investigation in accordance with this Section shall be conducted under the direction of a Licensed Professional Engineer. Upon completion of site investigation, the supervising Licensed Professional Engineer shall certify that the site investigation meets all the applicable requirements of this Section, and whether aquifer material is present (or not present) within 50 feet of the planned bottom of the lagoon in accordance with Section 505.203 of this Part.

Section 505.203      Registration

- a) Prior to new construction or modification of ANY EARTHEN LIVESTOCK WASTE LAGOON AFTER THE EFFECTIVE DATE OF this Part, such earthen livestock waste lagoon SHALL BE REGISTERED BY THE OWNER OR OPERATOR WITH THE DEPARTMENT ON A FORM PROVIDED BY THE DEPARTMENT in accordance with the requirements of this Section. LAGOONS CONSTRUCTED PRIOR TO THE EFFECTIVE DATE OF this Part MAY REGISTER WITH THE DEPARTMENT AT NO CHARGE. (510 ILCS 77/15(b).)
- b) The registration form, accompanied by a \$50 fee, shall include the following:
  - 1) NAME(S) AND ADDRESS(ES) OF THE OWNER AND OPERATOR WHO ARE RESPONSIBLE FOR THE LIVESTOCK WASTE LAGOON;
  - 2) GENERAL LOCATION OF LAGOON;
  - 3) DESIGN CONSTRUCTION PLANS AND SPECIFICATIONS;
  - 4) SPECIFIC LOCATION INFORMATION (noted on a facility site map):
    - A) DISTANCE TO THE NEAREST PRIVATE OR PUBLIC POTABLE WELL;
    - B) DISTANCE TO THE NEAREST OCCUPIED PRIVATE RESIDENCE (OTHER THAN ANY OCCUPIED BY THE OWNER OR OPERATOR);

- C) DISTANCE TO THE NEAREST STREAM; AND
- D) DISTANCE TO THE NEAREST POPULATED AREA;
- 7) ANTICIPATED BEGINNING AND ENDING DATES OF LAGOON CONSTRUCTION;
- 8) TYPE OF LIVESTOCK AND NUMBER OF ANIMAL UNITS;
- 9) A certification by the supervising Licensed Professional Engineer, accompanied by supporting justification and data, certifying that the site investigation meets all the applicable requirements of Section 505.202 of this Part, whether aquifer material is present (or not present) within 50 feet of the planned bottom of the lagoon; and
- 10) Where applicable a copy of the synthetic liner manufacturer's compatibility statement and liner maintenance guidelines.

(510 ILCS 77/15(b).)

- c) THE DEPARTMENT UPON RECEIPT OF LIVESTOCK WASTE LAGOON REGISTRATION FORM SHALL REVIEW THE FORM TO DETERMINE THAT ALL REQUIRED INFORMATION HAS BEEN PROVIDED. THE PERSON FILING THE REGISTRATION SHALL BE NOTIFIED WITHIN 15 WORKING DAYS THAT REGISTRATION IS COMPLETE OR THAT CLARIFICATION INFORMATION IS NEEDED. NO LATER THAN 10 WORKING DAYS AFTER THE RECEIPT OF THE CLARIFICATION INFORMATION, THE DEPARTMENT SHALL NOTIFY THE OWNER OR OPERATOR THAT REGISTRATION IS COMPLETE.  
(510 ILCS 77/15(b).)

Section 505.204 Lagoon Design Standards

- a) The owner or operator of ANY LIVESTOCK WASTE LAGOON SUBJECT TO this part SHALL CONSTRUCT OR MODIFY the lagoon IN ACCORDANCE WITH (510 ILCS 77/15(a)):
  - 1) "DESIGN OF ANAEROBIC LAGOONS FOR ANIMAL WASTE MANAGEMENT", ASAE ENGINEERING PRACTICE 403.1; OR THE GUIDELINES PUBLISHED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE'S NATURAL RESOURCE CONSERVATION

SERVICE TITLED "WASTE TREATMENT LAGOON", which are incorporated by reference in 35 Ill. Adm. Code 505.104 (510 ILCS 77/15(a)); and

- 2) The additional design standards specified in subsections (c) through (g) of this Section.
- b) THE DEPARTMENT MAY REQUIRE CHANGES IN DESIGN OR ADDITIONAL REQUIREMENTS TO PROTECT GROUNDWATER, SUCH AS EXTRA LINER DEPTH OR SYNTHETIC LINERS, WHEN IT APPEARS GROUNDWATER COULD BE IMPACTED. (510 ILCS 77/15(a).)
  - c) The owner or operator shall conduct site investigation in accordance with Section 505.202 of this Part to determine if aquifer material is present (or not present) within 50 feet of the planned bottom of the lagoon.
  - d) The owner or operator shall, as a part of the lagoon design, include the use of a liner and implement groundwater monitoring in accordance with following conditions:
    - 1) If the upper most aquifer material is located above or within 20 feet of the lowest point of the planned lagoon bottom (as measured from the top of any proposed liner), then the lagoon design shall include both a liner and groundwater monitoring.
    - 2) If the uppermost aquifer material is located between 20 to 50 feet from the lowest point of the planned lagoon (as measured from the top of any proposed liner), then the lagoon design shall include a liner, but no groundwater monitoring is required.
    - 3) If no aquifer material is located within 50 feet from the lowest point of the planned lagoon (as measured from the top of any proposed liner), then the lagoon design shall require neither a liner nor groundwater monitoring.
  - e) If the owner or operator determines that a liner is required for the lagoon pursuant to this Section, the design of the lagoon shall include in-situ soil liner, a borrowed clay, clay/bentonite mixture or a synthetic liner meeting the requirements of Section 505.205 of this Part.
  - f) If the owner or operator determines that groundwater monitoring is required for the lagoon pursuant to this Section, the design of lagoon shall include the implementation of a groundwater monitoring program in accordance with Section 505.206 of this Part.

- g) Any livestock waste lagoon subject shall meet or exceed the following:
- 1) Earthen walls shall have side slopes not to exceed a 3 to 1 ratio of horizontal to vertical;
  - 2) The total capacity of any newly constructed lagoon shall be sufficient to store the waste generated by the facility for no less than 270 days;
  - 3) Any lagoon exposed to precipitation shall have sufficient freeboard capacity to contain a 25 year, 24 hour storm, but in no case shall there be less than a 2 feet freeboard capacity; and
  - 4) Subsurface drainage lines in the immediate area of the livestock waste lagoon shall be removed or relocated to provide for a minimum separation distance of not less than 50 feet between the outermost extent of the lagoon and the subsurface drainage line.

Section 505.205 Liner Standards

- a) The owner or operator of any livestock waste lagoon required to have a liner constructed from in-situ soils, borrowed clay or a clay/bentonite mixture, or a synthetic liner pursuant to Section 505.204(c) of this Part shall comply with the requirements of this Section.
- b) A liner constructed using in-situ soil or borrowed clay or clay/bentonite mixtures shall meet the following standards:
  - 1) The minimum liner thickness shall be 2 feet;
  - 2) The liner shall be constructed in lifts not to exceed 6 inches in thickness;
  - 3) The liner shall be compacted to achieve a hydraulic conductivity equal to or less than  $1 \times 10^{-7}$  centimeters/second; and
  - 4) The construction and compaction of the liner shall be carried out to reduce void spaces and allow the liner to support the loadings imposed by the waste disposal operation without settling.
- c) Any synthetic liner used in the construction of a livestock waste lagoon shall meet the following standards:

- 1) The liner shall be designed to perform equivalent to or better than a liner that conforms to subsection (b) above;
  - 2) The liner manufacturer shall provide to the owner or operator the liner maintenance guidelines and shall certify that the liner is chemically compatible with:
    - A) The livestock waste being stored; and
    - B) The supporting soil materials.
  - 3) The liner shall be supported by a compacted base free from sharp objects;
  - 4) The liner shall have sufficient strength and durability to function at the site for the design period under the maximum expected loadings imposed by the waste and equipment and stresses imposed by settlement, temperature, construction and operation;
  - 5) The liner seams shall be made in the field according to the manufacturer's specifications. All sections shall be arranged so that the use of field seams is minimized and seams are oriented in the direction subject to the least amount of stress; and
  - 6) The owner or operator shall maintain a copy of the manufacturer's compatibility statement and liner installation and maintenance guidelines at the facility.
- d) The construction or installation of the liner in accordance with this Section shall be conducted under the direction of a Licensed Professional Engineer. Upon completion of construction or installation of the liner, the supervising Licensed Professional Engineer shall certify that the liner meets all the applicable requirements of this Section. Such certification shall include all supporting justification and data.
  - e) The owner or operator of a livestock waste lagoon shall submit to the Department a copy of the Licensed Professional Engineer's Certification prior to placing the lagoon in service in accordance with Section 505.207 of this Part.

#### Section 505.206 Groundwater Monitoring

- a) The owner or operator of any livestock waste lagoon required to implement groundwater monitoring pursuant to Section 505.204(c) of

this Part shall implement a monitoring program which meets the requirements of this Section.

- b) The groundwater monitoring network shall consist of a minimum of three monitoring wells located on the basis of local groundwater conditions with at least two wells downgradient of the lagoon.
- c) The monitoring wells shall be installed in accordance with the following:
  - 1) The requirements of Illinois Water Well Construction Code at 77 Ill. Adm. Code 920.170;
  - 2) The top of the well screen shall be set below the seasonal low water table depth;
  - 3) Monitoring well shall utilize a five foot screened interval; and
  - 4) The screen shall be set in a sand pack of no less than five feet and no greater than seven feet.
- d) Monitoring wells shall be sampled once prior to placing the lagoon in service and quarterly thereafter. The samples shall be analyzed for nitrate-nitrogen, phosphate-phosphorous, chloride, organic carbon, sulfate, ammonia-nitrogen, Escherichia coli, and fecal coliform or fecal strep. Analytical results shall be submitted to the Department within 30 days of receipt and shall include a discussion relative to the significance of the results.

#### Section 505.207 Certification of Construction

- a) THE DEPARTMENT SHALL INSPECT AN EARTHEN LIVESTOCK WASTE LAGOON AT LEAST ONCE DURING THE PRE-CONSTRUCTION, CONSTRUCTION OR POST-CONSTRUCTION PHASE and SHALL REQUIRE MODIFICATIONS WHEN NECESSARY to ensure the project will be in compliance with the requirements of this Part. (510 ILCS 77/15(b).)
- b) Upon completion of construction or installation of a liner, the supervising Licensed Professional Engineer shall certify that the liner meets all the applicable requirements of Section 505.205 of this Part. Such certification shall be submitted to the Department prior to placing the lagoon in service and include supporting data and justification.
- c) Upon completion of the construction or modification but before placing the lagoon in service, the owner or operator shall certify to the

Department on a form provided by the Department that the lagoon has been constructed or modified in accordance with the requirements of this Part and that the information provided during the registration process is correct. The certification notice to the Department shall include a certification statement as required under Section 15(b)(2) of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.) and the signature of the owner or operator.

- d) THE OWNER OR OPERATOR OF THE LAGOON MAY PROCEED TO PLACE THE LAGOON IN SERVICE NO EARLIER THAN 10 WORKING DAYS AFTER SUBMITTING TO THE DEPARTMENT A CERTIFICATION OF COMPLIANCE STATEMENT. (510 ILCS 77/15(b).)

Section 505.208 Failure to Register or Construct in Accordance with Standards

THE OWNER OR OPERATOR OF ANY EARTHEN LIVESTOCK WASTE LAGOON SUBJECT TO REGISTRATION THAT HAS NOT BEEN REGISTERED OR CONSTRUCTED IN ACCORDANCE WITH STANDARDS SET FORTH in this part SHALL, UPON BEING IDENTIFIED AS SUCH BY THE DEPARTMENT, BE GIVEN WRITTEN NOTICE BY THE DEPARTMENT TO REGISTER WITHIN 10 WORKING DAYS OF RECEIPT OF THE NOTICE. THE DEPARTMENT MAY INSPECT SUCH LAGOON AND REQUIRE COMPLIANCE IN ACCORDANCE with this Part. IF THE OWNER OR OPERATOR OF THE LIVESTOCK WASTE LAGOON THAT IS SUBJECT TO REGISTRATION FAILS TO COMPLY WITH THE NOTICE, THE DEPARTMENT MAY ISSUE A CEASE AND DESIST ORDER UNTIL SUCH TIME AS COMPLIANCE IS OBTAINED WITH THE REQUIREMENTS OF THIS PART. FAILURE TO CONSTRUCT THE LAGOON IN ACCORDANCE WITH THE REQUIREMENTS of this Part AND DEPARTMENT RECOMMENDATIONS IS A BUSINESS OFFENSE PUNISHABLE BY A FINE OF NOT MORE THAN \$5,000. (510 ILCS 77/15(f).)

SUBPART C: WASTE MANAGEMENT PLAN

Section 505.301 Purpose

Livestock waste management plans shall be prepared by livestock management facility owners or operators to provide for adequate land area for the proper application of livestock waste at agronomic crop nitrogen usage rates.

Section 505.302 Scope and Applicability

- a) The owner or operator of a livestock management facility with less than 1,000 animal units shall not be required to prepare and maintain a waste management plan.

- b) The owner or operator of a livestock management facility with 1,000 or greater but less than 7,000 animal units shall comply with the following:
- 1) For facilities in existence as of the effective date of this Part, the owner or operator shall prepare and maintain a waste management plan within 60 working days after the effective date of this Part;
  - 2) For facilities which commence operations after the effective date of this Part, the owner or operator shall prepare and maintain a waste management plan within 60 working days of commencing operations;
  - 3) For facilities that reach or exceed 1,000 animal units through expansion, the owner or operator shall prepare and maintain a waste management plan within 60 working days after reaching or exceeding 1,000 animal units;
  - 4) Prior to the end of the time period in subsections 505.302(b)(1) through (b)(3) above the owner or operator shall submit to the Department a form certifying that a livestock waste management plan has been prepared. The form shall also list the location of the plan; and
  - 5) The livestock waste management plan and records of waste disposal pursuant to Section 505.310 of this Part shall be kept on file at the facility for three years and shall be available for inspection by Department personnel during normal business hours.
- c) The owner or operator of a livestock management facility with 7,000 or greater animal units shall comply with the following:
- 1) For facilities in existence as of the effective date of this Part, the owner or operator shall submit to the Department a waste management plan within 60 working days after the effective date of this Part for approval by the Department;
  - 2) For facilities which commence operations after the effective date of this Part, the owner or operator shall submit a waste management plan to the Department. The facility shall not commence operation before the Department approves the plan;



- 3) For facilities that reach or exceed 7,000 animal units through expansion, the owner or operator shall submit to the Department a waste management plan within 60 working days of reaching or exceeding 7,000 animal units for approval by the Department; and
  - 4) Records of livestock waste disposal pursuant to Section 505.310 of this Part shall be kept on file at the facility for three years and shall be available for inspection by Department personnel during normal business hours.
- d) For the purposes of this Subpart the number of animal units at a livestock management facility is the one-time maximum design capacity of that livestock management facility.
  - e) A separate waste management plan shall be developed for each livestock waste handling facility and each separate type of livestock waste storage structure or system. Waste from different types of storage structures may be applied to the same land provided that the maximum nitrogen application rate to obtain optimum crop yields is not exceeded.
  - f) Notwithstanding the above provisions, a livestock management facility subject to this Subpart may be operated on an interim basis but not to exceed six months after the effective date of these rules to allow for the owner or operator of the facility to develop a waste management plan.

#### Section 505.303 Waste Management Plan Contents

The Livestock Waste Management Plan shall contain the following items:

- a) Name, address, and phone number of the owner(s) of the livestock facility;
- b) Name, address, and phone number of the manager or operator if different than the owner(s);
- c) Address, phone number, and plat location of the facility, and directions from nearest post office;
- d) Type of waste storage for the facility;
- e) Species, general size, and number of animals at the facility;
- f) Aerial photos and maps outlining fields available and intended for livestock waste applications with available acreage listed and with

residences, streams, wells, waterways, lakes, ponds, rivers, drainage ditches, and other water sources indicated;

- g) For application fields not owned or rented, copies of waste application agreements between the owner or operator of the livestock facility and the owner of the land where livestock waste will be applied;
- h) An estimate of the volume of livestock waste to be disposed of annually;
- i) Cropping schedule for each field for the past year, the current year, and the next two years after the current year;
- j) Optimum crop yields for each crop in each field, verified by yield history, if available;
- k) Nutrient content of the livestock waste;
- l) Livestock waste application methods;
- m) Calculations showing the following:
  - 1) Amount of available livestock waste to be applied to growing crops;
  - 2) Amount of nutrients available for application;
  - 3) Nitrogen losses due to type of waste storage and method of application;
  - 4) Amount of plant-available nitrogen including mineralization of organic nitrogen;
  - 5) Amount of nutrients required by each crop in each field based on optimum crop yields;
  - 6) Nitrogen credits from previous crops and from any manure applications during the previous three years for each application field;
  - 7) Livestock waste application rate based on nitrogen for each application field; and
  - 8) Land area required for application;

- n) A listing of fields and the planned livestock waste application amounts for each field;
- o) A provision that livestock waste applied within 1/4 mile of any residence not part of the facility shall be injected or incorporated on the day of application. However, livestock management facilities and livestock waste handling facilities that have irrigation systems in operation prior to May 21, 1996, or existing facilities applying waste on frozen ground are not subject to the requirements of this provision;
- p) A provision that livestock waste may not be applied within 200 feet of surface water unless the water is upgrade or there is adequate diking and waste will not be applied within 150 feet of potable water supply wells;
- q) A provision that livestock waste may not be applied in a 10-year flood plain unless the injection or incorporation method of application is used;
- r) A provision that livestock waste may not be applied in waterways, however livestock waste may be applied in grassed waterways with irrigation systems if the slope of the land is less than 5%, the distance to surface water is greater than 200 feet, the distance to potable water is greater than 150 feet, and precipitation is not expected within 24 hours; and
- s) A provision that if waste is spread on frozen or snow-covered land, the application will be limited to land areas on which:
  - 1) Land slopes are 5% or less; or
  - 2) Adequate erosion control practices exist.

#### Section 505.304 Livestock Waste Volumes

Information for determining the amount of livestock waste available to be applied as required in Section 505.303(m)(1) of this Part shall be obtained as follows:

- a) For lagoons, or other structures containing diluted livestock waste, the facility owner or operator shall determine the volume for disposal through site specific measurements. An explanation of the method used to determine the volume for disposal shall be provided by the owner or operator and included in the plan.
- b) For storage tanks or other holding structures containing undiluted livestock waste, site specific measurements of volume are preferred. In

lieu of actual measurements, values from Table 2-1, MWPS-18, Livestock Waste Facilities Handbook, p. 2.1 may be used.

#### Section 505.305 Nutrient Content of Livestock Waste

Values of nutrient content in livestock waste, as required in Section 505.303(m)(2) of this Part, may be obtained from Tables 2-1, 2-2, 10-6, or 10-7, MWPS-18, Livestock Waste Facilities Handbook, pp. 2.1, 2.2, 10.4, 10.5, or from the results of an analysis performed on samples of waste from the livestock facility. Laboratory analysis results shall be included in the waste management plan if the data is used for determining the nutrient content.

#### Section 505.306 Adjustments to Nitrogen Availability

- a) For Section 505.303(m)(3) of this Part, correction factors for nutrient loss from livestock waste due to type of handling and storage shall be obtained from Table 10-1, MWPS-18, Livestock Waste Facilities Handbook, p. 10.2, if nutrient content data is obtained from Tables 2-1 or 2-2, MWPS-18, Livestock Waste Facilities Handbook, pp. 2.1, 2.2.
- b) For Section 505.303(m)(3) of this Part, correction factors for nitrogen loss from livestock waste due to method of application to the land shall be obtained from Table 10-2, MWPS-18, Livestock Waste Facilities Handbook, p. 10.2.
- c) For Section 505.303(m)(4) of this Part, factors for calculating available nitrogen from organic nitrogen in livestock waste shall be obtained from Table 10-5, MWPS-18, Livestock Waste Facilities Handbook, p. 10.4.

#### Section 505.307 Optimum Crop Yields

The optimum crop yield goal, as required in Section 505.303(m)(5) of this Part, shall be determined for the land where the livestock waste is to be applied. The optimum crop yield can be determined using one of the following methods:

- a) Proven yields. Yield records shall be submitted for the past five years with a description of how the yield was proven. Data from years with crop disasters may be discarded. A minimum of three years data shall be submitted.
- b) Crop insurance yields. A copy of the determined yield shall be submitted.
- c) Farm Service Agency yields. A copy of the determined crop yield shall be submitted.

- d) Soils based yield data from the Natural Resources Conservation Service. A soil map of the application areas shall be submitted. The optimum crop yield shall be determined by a weighted average of the soil interpretation yield records for the areas that will receive livestock waste.

#### Section 505.308 Crop Nutrient Requirements

For Section 505.303(m)(5) of this Part, values for nutrients required for various crops in Illinois shall be obtained from Tables 11.12, 11.13 and 11.14, Circular 1333, Illinois Agronomy Handbook 1995-1996, pp. 82, 83 or from recommendations of the University of Illinois Cooperative Extension Service for crops not listed. For corn and grain, the nitrogen rate shall be 1.22 to 1.32 pounds per bushel of optimum yield. Nitrogen may be applied to soybeans at the same rate as if corn was being grown.

#### Section 505.309 Nitrogen Credits

- a) For Section 505.303(m)(6) of this Part, nitrogen credits from previous crops shall be obtained from Table 11.14, Circular 1333, Illinois Agronomy Handbook 1995-1996, p. 83. Nitrogen credits for previously applied livestock waste (manure) shall not be taken from Table 11.14, but shall be obtained according to Section 505.309(b) of this Part.
- b) Nitrogen credits shall be calculated for the mineralized organic nitrogen in livestock waste applied during the previous three years at the rate of 50%, 25%, and 12.5%, respectively, of that mineralized during the first year.

#### Section 505.310 Records of Waste Disposal

Records of the livestock waste disposal shall include the following items:

- a) Date of livestock waste application;
- b) Field identification;
- c) Method of application;
- d) Livestock waste application rate;
- e) Number of acres receiving waste; and
- f) Amount of livestock waste applied.

Section 505.311 Approval of Waste Management Plans

- a) Department approval of livestock waste management plans shall be based on the following criteria:
  - 1) Livestock waste application rates of nitrogen based on crop usage for optimum yields;
  - 2) Demonstration of adequate land area for waste application based on Section 505.303 of this Part; and
  - 3) Completeness and accuracy of plan contents as specified in Section 505.303 of this Part.
- b) The owner or operator of the livestock management facility shall be notified by the Department within 30 working days of receipt of the livestock waste management plan that the plan has been approved or that further information or changes are needed. The owner or operator shall provide the information or changes within 30 working days.

Section 505.312 Penalties

- a) Any person who is required to prepare and maintain a waste management plan and who fails to do so shall be issued a warning letter by the Department for the first violation and shall be given 30 working days to prepare a waste management plan. For failure to prepare and maintain a waste management plan, the person shall be fined an administrative penalty of up to \$500 by the Department and shall be required to enter into an agreement of compliance to prepare and maintain a waste management plan within 30 working days. For failure to prepare and maintain a waste management plan after the second 30 day period or for failure to enter into a compliance agreement, the Department may issue an operational cease and desist order until compliance is attained.
- b) Warning letters shall be sent via certified mail. The time period for a response by the livestock management facility owner or operator shall begin upon receipt of the warning letter.
- c) A waste management plan prepared pursuant to a warning letter or compliance agreement shall be subject to approval by the Department according to Section 505.311 of this Part.

- d) Penalties shall not be imposed for excessive nitrogen application for unplanned cropping changes due to the weather or other unforeseeable circumstances.

#### SUBPART D: CERTIFIED LIVESTOCK MANAGER

##### Section 505.401 Applicability

- a) A livestock waste handling facility serving 300 or greater animal units shall be operated only under the supervision of a certified livestock manager. Persons may become certified livestock managers by demonstrating an understanding of and competence for the operation of livestock waste handling facilities as established in Section 30 of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.) and further described in this Part. Livestock Managers shall establish or re-establish certification when required to do so in accordance with Section 30 of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.).
- b) For the purposes of this Subpart the number of animal units at a livestock management facility is the one-time maximum design capacity of that livestock management facility.

##### Section 505.402 Training Sessions

- a) A training session intended to assist livestock managers in meeting the requirements of certification shall be a minimum of three (3) hours duration and must address all general competency standards as established in Section 30 of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.).
- b) Training sessions offered by organizations other than the Department shall first be approved by the Department to be a valid method of certification for livestock managers under Section 30(d) of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.).
  - 1) Requests for training session approval shall be made in writing to the Department prior to their offering. Such requests shall include a specific course outline with contact time periods associated with each topic and copies of all handout materials to be utilized in the proposed training program.
  - 2) The Department shall review the request and associated materials for compliance with the requirements included at Section 30(b) of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.)

and provide notification in writing to the organization whether the request is approved or denied.

- 3) An attendance list shall be maintained by the sponsoring organization at all approved training sessions. Upon completion of an approved session, the sponsoring organization shall forward a copy of the attendance sheet to the Department.

#### Section 505.403 Examinations

- a) The closed book examination will consist of 100 questions pertinent to general competency standards (see Section 30(b) of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.)) for which a correct answer is to be selected for each question from multiple choice answers.
- b) A person may only make two attempts to successfully complete a written competency examination in any one normal work day. The examination can only be taken a maximum of three (3) times within any six month period.

#### Section 505.404 Methods of Certification

Livestock Manager certification will be granted or denied by the Department after compliance is established with Section 30(d)(1) or (2) of the Livestock Management Facilities Act (510 ILCS 77/1 et seq.) and upon receipt of the prescribed certification fee:

- a) If the method of compliance establishment includes a written examination, a minimum of 70% of the answers must be correct for certification to be granted;
- b) If the method of compliance establishment is attendance at a training session, the session must have been pre-approved by the Department and the applicant's name must appear on the attendance list; and
- c) In addition, all information requested on the examination application must be provided for certification to be granted.

#### Section 505.405 Training Materials and Training Fees

- a) Forms and training materials for livestock manager certification will be available at the local level at the Department's direction and at Department offices.



- b) The Department may charge fees for the supply of training materials and training sessions provided by the Department on a cost reimbursement basis. Such cost reimbursement may include meeting room rental, material purchase or duplication costs, other material-related expenses and staff expense associated with the conduct of the training session.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1994)) provides for appeal of final Board orders within 35 days of the date of service of this order. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246 "Motions for Reconsideration.")

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the \_\_\_\_ day of \_\_\_\_\_, 1997, by a vote of \_\_\_\_\_.

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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board