

DOCUMENTATION AND RECORDKEEPING REQUIREMENTS FOR PERMITTED LIVESTOCK OPERATIONS

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

BACKGROUND

For over twenty years, the Nebraska Department of Environmental Quality (NDEQ) has regulated livestock operations. The general intent of the regulations is to control livestock waste discharges to surface waters of the State. Uncontrolled discharges to surface waters can result in:

- Degraded water quality;
- Undesirable algal blooms due to elevated levels of nitrogen and phosphate in the water;
- Dangerous levels of bacteria such as E. coli, and;
- Fish kills from high levels of ammonia.

In addition to establishing water quality standards and prohibiting certain discharges, the regulations created permitting systems for livestock operations. The permits govern the design, construction and operation of structures to control discharges as well as defining what discharges are allowed.

Livestock operations are divided into two general categories: open lot livestock operations and confined livestock operations.

LIVESTOCK OPERATIONS DEFINED

Open lot livestock operations are defined as pens or similar concentrated areas, including small shed-type areas or open-front buildings, with dirt, or concrete (or paved or hard) surfaces, wherein animals or poultry are substantially or entirely exposed to the outside environment except for possible small portions affording some protection by windbreaks or small shed-type areas.

Confined livestock operations are defined as totally roofed buildings, which may be open-sided (for ventilation purposes only) or completely enclosed on the sides, wherein animals or poultry are housed over solid concrete or dirt floors, or slatted (partially open) floors over pits or manure collection areas in pens, stalls or cages, with or without bedding materials and mechanical ventilation.

REGULATORY OVERVIEW

State Operating Permits (SOPs)

Title 130 - Rules and Regulations Pertaining to Livestock Waste Control governs the permitting of livestock waste control facilities. These regulations were updated effective April 15, 1998 under the Livestock Waste Management Act, LB1209. Some of the changes to the regulations included requirements for comprehensive nutrient management plans, sludge management plans, and closure plans. The regulations also required any person owning or operating a livestock operation, who did not hold a permit or letter of exemption for that operation, to request an inspection by NDEQ prior to January 1, 2000. Livestock operations on pasture were/are exempt from this regulation. In 1999, the Act was amended to also exempt livestock operations with less than 300 animal units if:

1. No confirmed discharge of livestock waste to waters of the State had occurred and;
2. NDEQ determines that there is no high potential for a discharge to waters of the State.

Because of the subjective nature of this exemption, UNL submits requests for inspections for most livestock operations.

Following the inspection, NDEQ determines if the operation is subject to regulation. If so, the operation is required to take actions such as the design and construction of livestock waste control facilities (i.e. earthen structures and lagoons) as well as the development of previously mentioned plans. For existing waste control facilities, documentation of its design parameters and construction are required. The operation is required to submit this information in an application and, when approved, NDEQ issues a State Operating Permit (SOP). For livestock operations that NDEQ has inspected where no action or permit is needed, NDEQ issues a letter to that effect.

SOPs are issued for both open lot livestock feeding operations and confined livestock operations. SOPs govern only the operation and maintenance of waste control facilities and the livestock operation itself. The permit does not address discharges to surface waters of the State.

National Pollutant Discharge Elimination System (NPDES Permits)

Confined units are not issued NPDES permits as they are never permitted to discharge to surface waters of the State. For open lot livestock operations, discharges are allowed under certain conditions. **Title 119 – Rules and Regulations Pertaining to the Issuance of Permits Under the National Pollutant Discharge Elimination System**, governs permitted discharges to waters of the State. Thus, open lot livestock operations can be issued National Pollutant Discharge Elimination System (NPDES) Permits in addition to SOPs. Common standards for acceptable discharges are:

1. Precipitation in excess of a 25-year, 24-hour rainfall event or;
2. A chronic wet period.

The normal permitting process (i.e. an individual permit) is time consuming for both NDEQ as well as the livestock operation. As a result, NDEQ established the **General Permit for Livestock Operations** NPDES Permit Number NEG010000. It is, in effect, a 'permit by rule.' Under this process, operations submit a one-page application and are inspected by NDEQ. NDEQ will then determine if the operation is subject to a permit. If it is, the operation must address any issues raised by the inspection and is issued a permit. If the operation is not subject to a permit, NDEQ sends a letter to that effect. Note that NDEQ has the option to refuse to issue a general permit and can instead require any operation to apply for an individual permit.

Exempt Operations

Operations that have been exempted from permitting have no document, record keeping, or reporting requirements. However, any letter of exemption no longer applies if the operation changes in number of livestock, pens, or other structures. Because of this, it is important to document the operation as it exists at the time of the inspection. Sale bills, feed records, and photographs of the pens and other structures should be kept. For exempt operations that have not been inspected, it is equally important to maintain documentation that demonstrates its exempt status. Sale bills and feed records can be used to support the claim of exemption.

Note that even exempt operations are not allowed to discharge to surface waters of the State.

DOCUMENTS REQUIRED, RECORD KEEPING, REPORTING

Open Lot Livestock Operation

State Operating Permit (SOP)

Some facilities may not have a SOP. This can be the due to:

1. The small number of livestock present;
2. A determination by NDEQ not to require or issue a permit; or
3. The existence of the facility prior to 1998 when the permitting rule became effective.

Existing facilities must prepare and submit the appropriate documents only when required, in writing, by the NDEQ.

Documents Required

1. Name, address and phone number for the applicant, authorized representative and technical advisor, the type of livestock, the maximum livestock capacity of the livestock operation and the average livestock weight, and the legal description of the livestock operation;
2. Scaled drawings, topographic maps, or equivalent, of the livestock operation and facility. These must show the spatial location of the facility, the land application areas, the source of the livestock operation's water supply (e.g. well, rural water or municipal water source), surface water flow direction, the location of the livestock operation and the various components of the facility;
3. Construction methods for livestock waste control facilities;
4. Engineer's scope of services for Class II, Class III and Class IV facilities;
5. Comprehensive Nutrient Management Plan. Additional information on this can be found at: <http://cnmp.unl.edu/>;
6. A United States Geological Survey Quadrangle Map(s) or equivalent maps showing the location of the facility and the area extending 2,000 feet from the facility. The location of all known wells, homesteads, and businesses that at the time of application lie within 2,000 feet of the facility must be indicated on the map(s);
7. Facility design calculations;
8. Supporting geotechnical reports;
9. Sludge Management Plan. Additional information on this can be found at: <http://cnmp.unl.edu/>;
10. Operational and Maintenance Plan. Additional information on this can be found at: <http://cnmp.unl.edu/>;
11. Emergency Response Plan. Additional information on this can be found at: <http://cnmp.unl.edu/>; and
12. Closure Plan. Additional information on this can be found at: <http://cnmp.unl.edu/>.

Record Keeping

1. Precipitation records – keep on daily basis;
2. Staff gauge records – record at least once a month, after each precipitation event and after pumping;
3. Waste analysis records (both liquid and solid wastes) – record when land applying (test for nitrogen). Analysis for Phosphorous is not required as the regulations use nitrogen alone as the basis for determining agronomic rates;
4. Soil test records – record results of annual soil tests. Tests must be taken annually at the same time of year, and only on land that will receive application of livestock waste in the upcoming season. Test for nitrogen and phosphorus, per the Comprehensive Nutrient Management Plan (CNMP);
5. Land application records (both liquid and solid waste application). The following must be recorded:
 - a. Date of application;

- b. Start time;
- c. Stop time;
- d. Where applied (include map);
- e. Total quantity of waste applied; and
- f. Rate of application (amount per acre).

Note that the calculation used to determine rate of application for nitrogen is dependant on the method of application. Additional information on this can be found at: <http://cnmp.unl.edu/>;

6. Operation and maintenance inspection records – record monthly inspection of livestock waste control facility (LWCF), including the irrigation distribution system, and documentation of repairs. Additional information on this can be found at: <http://cnmp.unl.edu/>; and
7. Receipts for any waste (liquid or solid) sold or given away.

Reporting

1. Report, in writing, to EHS all soil analyses which exceed 150 parts per million (ppm) for phosphorus unless an alternate reporting level has been established in the permit. EHS will make the report to NDEQ.
2. Report to the EHS immediately upon becoming aware of a discharge or the need to discharge. UNL is responsible for notifying NDEQ of these situations within 24 hours and EHS is tasked with making the report. Note: this language in the regulations does not imply approval by NDEQ to discharge or protect the operation from legal action in the event of a discharge.

NPDES Permit

NPDES permits can be required of any open lot livestock operation that has discharged or has the potential to discharge livestock wastes to surface waters of the State as a result of precipitation less than 25-year, 24-hour rainfall event.

Documents Required

1. Permit application;
2. NPDES permit; and
3. Operation and maintenance plan.

Record Keeping

1. Precipitation records – keep on daily basis;
2. Staff gauge records – record at least once a month, after each precipitation event and after pumping;
3. Waste analysis records (both liquid and solid wastes) – record when land applying (test for nitrogen); and

4. Soil test records – record results of annual soil tests. Tests must be taken annually at the same time of year, and only on land that will receive application of livestock waste in the upcoming season. Test for nitrogen and phosphorus, per the CNMP.

The NPDES permit may not require land application records, but EHS does. The following must be recorded:

- a. Date of application;
- b. Start time;
- c. Stop time;
- d. Where applied (include map);
- e. Total quantity of waste applied; and
- f. Rate of application (amount per acre).

Reporting

1. Verbally notify EHS within 24 hours of any discharge to waters of the State; and
2. EHS will submit a discharge notification form to NDEQ within 7 working days of the discharge.

CONFINED LIVESTOCK OPERATION

State Operating Permit (SOP)

Some existing facilities may not have a SOP. This can be the due to:

1. The small number of livestock present;
2. A determination by NDEQ not to require or issue a permit; or
3. The existence of the facility prior to when the permitting rule became effective.

Existing facilities must prepare and submit the appropriate documents only when required, in writing, by NDEQ.

Documents Required

The documents required are the same as for open lot livestock operations.

State Operating Permit Record Keeping

1. Precipitation records – keep on daily basis (NOT required for underfloor pits);
2. Staff gauge records – record at least once a month, after each precipitation event and after pumping (NOT required for underfloor pits);
3. Waste analysis records (both liquid and solid wastes) – record when land applying (test for nitrogen);

4. Soil test records – record results of annual soil tests. Tests must be taken annually at the same time of year, and only on land that will receive application of livestock waste in the upcoming season. Test for nitrogen and phosphorus, per the CNMP;
5. Land application records (both liquid and solid waste application). The following must be recorded:
 - a. Date of application;
 - b. Start time;
 - c. Stop time;
 - d. Where applied (include map);
 - e. Total quantity of waste applied; and
 - f. Rate of application (amount per acre);

Note that the calculation used to determine application rate for nitrogen is dependant on the method of application. Additional information on this can be found at: <http://cnmp.unl.edu/>;

6. Operation and maintenance inspection records – record monthly inspection of livestock waste control facility (LWCF), including the irrigation distribution system and documentation of repairs. Additional information on this can be found at: <http://cnmp.unl.edu/>; and
7. Receipts for any waste (liquid or solid) sold or given away.

Reporting

Verbally notify NDEQ within 24 hours of any discharge to waters of the State. Note, that this does not imply an approval by NDEQ for the discharge.

NPDES Permit

NPDES Permits are not currently issued to Confined Feeding Operations.