



Concentrated Animal Feeding Operation CAFO Factsheet

Will An NPDES Permit Be Required For My Operation? Common Livestock Scenarios

This fact sheet is an outreach tool, designed to assist producers as they attempt to determine whether their operations require coverage under a CAFO National Pollutant Discharge Elimination System (NPDES) permit. The following common livestock production scenarios and the correlating permitting status for each are designed to assist livestock producers in determining whether an operation requires a permit. A site evaluation by Agency staff may also provide design and operating criteria by which permit problems can be successfully reduced or avoided.

Beef Operations

Scenario: A producer has two open lots one-quarter mile apart. Each lot has a capacity of 600 head. Manure from one lot is scraped and spread on acreage owned by the producer. Manure from the other lot is scraped and spread on acreage owned and rented by the producer. Does this operation need a CAFO NPDES permit?

Status: Both operations are in the "Medium" range (300 to 999 head). So the important test to determine if these are two separate sites or one Large CAFO is: Are they owned by the same party (person or company, or operated in a manner in which the ownership and managerial responsibilities are through the same individuals) AND do they use a common waste handling system, including the same land application areas? In this scenario we will assume that at a separation distance of one-quarter mile, the properties of the two open lots do not adjoin. We will also assume that two lots do not share the same feed, water, access road and other factors that may lead us to conclude the sites are under common ownership or management. The fact that they do not adjoin is an important consideration in determining if the two sites should be considered one. As long as the manure is applied to separate fields, the operations are separate. Medium CAFOs are defined by their size and the occurrence of one of two discharge factors: 1) animal access to a stream OR 2) runoff from the feedlot through a man-made device. The two operations could be considered Medium CAFOs, and therefore need two separate CAFO NPDES permits, if the two discharge criteria were met.

Scenario: A producer has an open lot containing 900 head of cattle. It is surrounded by a grass filter strip which is connected to a waterway (for conservation purposes) running to the farmer's own corn/soybean production field. The waterway that ends in the production



field is at least one-half mile from any creek. Does this operation need a CAFO NPDES permit? What circumstances (other than increasing cattle numbers to 1000 head) would cause this operation to need a permit?

Status: In this situation, the operation would need a NPDES permit IF a discharge occurred from the grass waterway to the creek, or to some other man-made device, such as a field tile or roadside ditch. Given the size of the operation, the producer should carefully investigate how the livestock waste was distributed by the grass filter strip and the waterway and into the crop field so that neither was damaged by high levels of nutrients in the manure. Damage of this type is possible and can lead to grass or crop “burn out,” and to preferential flow of the livestock waste in discrete channels. When this happens, discharge may occur to waterways over what initially seemed to be a long distance. Additionally, discharge through a waterway to a field would tend to cause the formation of a channel downstream of the waterway, resulting in a discharge of livestock waste. Very intensive management and maintenance of such a system would be required to prevent the discharge of livestock waste via a man-made device. Without the use of a settling basin and an intensive manure scrape and haul operation from the feedlots, solids may wash onto the grass waterway system, damaging it, or solids could wash through the grass waterway system and downstream channels resulting in a discharge of livestock waste to the creek.

Scenario A: Farmer A has 250 feeder cattle/cows in a pasture where the cattle are grazing stockpiled forage or in a cornfield grazing corn stalks. (The cattle receive supplemental feed throughout the winter either in a specified area of the pasture/cornfield or scattered on a ridge in the field.) The cattle will be in the pasture/cornfield for a minimum of 45 days. During the normal growing season, the pasture/cornfield both have vegetative cover. Is this operation an Animal Feeding Operation (AFO)? If it is not, what circumstances in the pasture/cornfield might cause it to be defined as an AFO? What might cause this operation to be permitted?

Scenario B: Same scenario as above except that Farmer B runs 850 feeder cattle. Would this operation need a CAFO NPDES permit?

Scenario C: Same scenario as above except that Farmer C has 500 cow/calf pairs. Would this operation need a permit? Once the calves were weaned and returned to the pasture with the cows, would this operation need a CAFO NPDES permit?

Status: Strictly speaking, pasture operations are not AFOs. However, in some cases pasture operations have confinement areas, like feedlots, barns and pens that may qualify as an AFO. The cattle operation in Scenario A can be defined as an AFO if the livestock are in the field for a minimum of 45 days in any 12 month period (in this case they are) and if crops, vegetation or post-harvest residue (corn stubble in this case) are not sustained in the normal growing season. Since the supplemental feed materials are provided in a manner that would concentrate the cattle in limited areas of the feedlot, the operation may reduce the vegetative cover or produce livestock waste runoff. The Illinois EPA could then determine that the operation is an AFO. If corrective action (such as moving the location of supplemental feed around to different locations from time to time) were not taken following the Agency’s determination and subsequent discussions with Farmer A, a CAFO NPDES permit may be necessary. Increasing the size of the operation to greater than 300 head may also cause this operation to be viewed as a Medium CAFO, depending on whether the cattle have access to a stream or if livestock waste runoff is discharged to a stream via a man-made device (e.g., grass waterway or pipe). This is the situation described in Scenario B—a larger operation in the Medium CAFO size of 300 to 999 head. Again, the critical factors in this case are: whether there is animal access to a stream, or runoff from the feedlot through a man-made device. In Scenario C, 500 cow/calf pairs are considered the equivalent of 500 head, so this operation could be a Medium CAFO if either of the two discharge criteria detailed above are present. Once

calves are weaned, the size of the operation would then be 1000 head, making this a Large CAFO needing a NPDES permit.

Scenario: I have an operation with between of 300-999 head with an open lot. Is there any way that I can exempt my operation from the permitting process? Please elaborate on appropriate economical structures, and management or production techniques so I can operate legitimately outside the permitting process.

Status: If a medium-sized AFO diverts all storm water from the production area and the diverted water does not come into contact with animals, manure, litter, or process wastewater, runoff of the storm water will not result in the operation being defined as a CAFO. Since all facilities will be sufficiently different, the producer should consider structures recommended by the Natural Resources Conservation Service (NRCS), University of Illinois College of Agricultural, Consumer and Environmental Sciences (ACES) or Cooperative Extension Service, or a consulting engineer. Ultimately it is up to the individual producer to determine what is economical for his or her operation.

Scenario: My operation consists of an open lot of less than 300 head. I have no stream running through it or manmade ditch or pipe going directly to a nearby creek. Am I required to file for a permit? If not, what changes to my operation would require me to file for a permit?

Status: A small AFO, such as this one (small since it is less than 300 head), must meet one of the two discharge criteria (specified in the Status section for the first Scenario above), and be determined by the Illinois EPA to be a significant contributor of pollutants to the waters of the United States to be designated as a CAFO. Determining whether a small AFO is a significant contributor of pollutants may involve, among other things, the Illinois EPA collecting samples for various contaminants in the stream at or near the site.

Dairy Operations

Scenario: A dairy producer who milks 80 cows drains his milkhouse waste through the floor into an underground tile, which exits off a hillside. The discharge drains from the pipe, down the side of a hill, into a creek.

Status: While this is a small AFO, due to its size, the Agency could designate this dairy a CAFO based on the discharge from the milking parlor. Addressing the milking parlor discharge could result in this producer legitimately operating outside of the CAFO permit program. Other aspects of the dairy need to be reviewed for potential discharges.

Scenario: A 300-cow operation utilizes a former beef feedlot as a loafing shed. The concrete feedlot diverts the waste into a settling basin to catch runoff from the feedlot. Occasionally, the settling basin may overflow during periods of heavy rain. This overflow travels over a vegetative filter strip. The feedlot is 500 feet from the nearest water source.

Status: This is a Medium CAFO that is of the proper size (between 200 and 699 cows) and one that has a discharge through a man-made device, specifically the settling basin/vegetated filter. The maximum number of animal units for an AFO that can be properly treated by a vegetated filter is 299, according to 35 Ill. Adm. Code 501.404(d). Proper treatment would involve diffusions of the waste across the filter and uptake by the grasses, from a properly operated settling basin. In this case, that design limit has been exceeded because 300 dairy cows are equivalent to 420 animal units. This operation needs to be covered under an NPDES permit.

Scenario: A dairy producer who milks 80 cows drains his milkhouse waste into an underground holding tank. This tank is emptied once a week, and land-applied on his alfalfa field. The alfalfa field is level, with no waterways, ponds, or streams running through it.

Status: This is a small AFO. The producer needs to continue to review his operation for other potential sources of wastewater discharge, such as the loafing area or the silage bunker.

Scenario: Tom has 850 pigs over 55 pounds on Farm A and 150 boars one mile away on Farm B. Farm A has confinement buildings with pits and one open front barn with concrete floors in which the manure is scraped off with a skid steer. The open front facility has a grass filter around the facility and no pipe, ditch, or waterway near the facility. Farm B has one open front barn with concrete floors in which the manure is scraped off with a skid steer. Farm B also has a grass filter strip around the facility. There is a waterway on the farm but manure never reaches the waterway. Manure from Farms A and B is applied to 480 contiguous acres owned by the producer. Does this farm need a CAFO NPDES permit?

Status: Since a common system for livestock waste disposal is used (in this case, the same agricultural land is used for application of the manure) and the total head at both facilities is 1000 (over 55 pounds), Farms A and B are considered one operation, in this case a possible Medium CAFO. Open front facilities typically have a concrete floor designed to slope to a concrete channel that, in turn is designed to drain away from the building and hogs. The concrete floors and channel are man-made devices and the runoff from these areas may reach surface waters in the area. Tom needs to apply for a CAFO NPDES permit that includes both farms.

Scenario A: Mark has two 2,400 head finishing sites, Site A and Site B. The buildings have deep pits and are one-half mile apart. Manure from Site A is applied to an adjacent field (Field A) that is owned by Mark. Manure from Site B is applied to a different field on a farm that is rented by Mark. Is this a Large CAFO?

Scenario B: Same scenario as above except that manure from Site A is applied to an adjacent field (Field A) that is owned by Mark, while manure from Site B is applied by the producer to a neighbor's field that is not under the control of the producer. Is this a Large CAFO?

Status: Since the land application areas (Fields A and B) and manure storage systems (individual deep-pitted buildings) are separate for each site, the operations are not considered a Large CAFO. The Agency would need to determine if either of the two 2,400 head sites are Medium CAFOs by asking Mark if a man-made device, such as a ditch or pipe, conveys wastewater or manure to surface waters or if there are livestock in contact with surface waters.

Scenario A: Bob has two 1,000 head confinement finishing barns with deep pits. All manure is contained and applied to an adjacent field owned by the producer. Water runoff from the site drains down a grassed waterway into a stream. Does this farm need a CAFO NPDES permit?

Scenario B: Same scenario as above, except water flows to a natural draw that drains to a stream. Does this farm need a CAFO NPDES permit?

Status: The combined barns would not be a Medium CAFO unless wastewater is generated from the production area. If this were the case, then both buildings should be addressed under one permit application as a Medium CAFO. The discharge from the land application area does not enter into the determination of whether permits are needed; however, the discharge must be addressed or rectified in the nutrient management plan developed by the producer.

Scenario: A producer has two 2,000 head sites with deep pits that are three-quarters of a mile away from each other. The producer uses the same manure tank to clean out the pits and apply the manure to two separate fields (one owned by the producer and one that is applied to his neighbor's field). Does the use of the manure tank require that these two facilities be considered one operation for permitting purposes?

Status: The use of a common manure tank or spreader does not by itself mean the facilities are considered common livestock operations.

Scenario: Steve and his two sons, Ryan and Chris, have a finishing operation with three 2,000 head finishing barns with deep pits. The buildings are all on the same site, but Steve, Ryan and Chris each owns a building. Is this facility one Large CAFO or are these three separate Medium CAFOs?

Status: Since this is described as “a finishing operation,” and not multiple finishing operations, additional information would assist in resolving the extent of mutual ownership among the father and sons. For example, are the buildings adjoining and therefore share water and power supplies, and who owns the buildings, the land, the feed and the hogs? All of this needs to be clarified. Each may be considered a separate operation if 1) separate ownership is maintained AND 2) separate systems of manure storage and disposal are used. If the land application areas that Steve, Ryan and Chris use are different for these buildings, then the three buildings are not a Large CAFO. The three buildings could be classified as three Medium CAFOs if a man-made device, such as a ditch or pipe, conveys wastewater or manure to surface waters, or if there are livestock in contact with surface waters. Since these buildings are closed, roofed structures over deep pits, it is unlikely hogs have access to a stream. Discharges from the building can occur and should be reviewed by the owners. They should also determine if other related structures that are part of their operations, like dead animal compost units or feed storage areas, generate discharges.

Scenario: A producer has a 2,500 head farrow to wean facility. The facility has all deep pits. All manure is contained and no rainwater can enter any of the manure storage structures. The producer does not have any land under his control for manure application. All of the manure is sold to a neighbor and applied to his fields by a custom manure applicator. Would this producer qualify for the “No Potential to Discharge” (NPTD) provision? If not what changes could be made to his operation to qualify or what other scenario would qualify for this provision?

Status: For the swine sector, the producer's demonstration to establish a status under the NPTD provision of the CAFO Rule must show that:

- all hogs are housed under roof at all times;
- manure and wastewater storage is provided under the barn and is not subject to precipitation or stormwater flow;
- manure and wastewater are not land applied;
- manure and wastewater are transferred to another person;
- the livestock facility is not located in the floodplain;
- the livestock waste storage and handling facilities are isolated from surface and subsurface drainage systems; and
- the livestock facility will not discharge under any circumstance or climatic condition.

As a 2,500 head swine operation, this is a Large CAFO and therefore qualifies to apply for the NPTD provisions under the CAFO Rule (Medium CAFOs do not qualify). The producer will need to demonstrate that the operation does not have the potential to discharge under any circumstances or climatic conditions. In this example, the producer sells the manure to a neighbor. Under the CAFO Rule, the neighbor is not a CAFO, and

the land application of the manure at the neighbor's fields is not the responsibility of the producer. The producer's NPTD demonstration is therefore limited to the storage and removal of manure from the deep pits and any other waste water generated at the livestock facility (runoff from dead animal compost facilities or feed storage areas, for example). In the application for NPTD status, the producer must also advise the Illinois EPA of the limits of the arrangement made with the neighbor, if any, and that the neighbor's land can handle the annual volume of manure generated by the producer.

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