

IOWA DEPARTMENT OF NATURAL RESOURCES

IN RE:)
) COMMENTS OF SIERRA CLUB
SUPREME BEEF LLC) IOWA CHAPTER
NUTRIENT MANAGEMENT PLAN)

Sierra Club Iowa Chapter hereby submits the following comments on the most recent nutrient management plan prepared for Supreme Beef LLC:

INTRODUCTION

On February 1, 2021, Supreme Beef submitted a nutrient management plan (NMP) for its cattle operation in Clayton County, Iowa. The NMP states that the operation will involve 11,600 head of cattle and designates 45 fields where manure will be applied. The purpose of the NMP is to calculate how much manure can appropriately be applied to the fields so that all of the manure is taken up by the crops.

This NMP is the second (or perhaps third) NMP submitted by Supreme Beef. In July 2020 Supreme Beef submitted an NMP for 11,600 head of cattle and 47 application fields. After reviewing the 47 fields, Iowa DNR approved only 13 fields for manure disposal. So Supreme Beef, with the apparent complicity of Iowa DNR, submitted a “revised” NMP on October 7, 2020, listing only the 13 approved fields and reducing the size of the initial operation to 2,700 head of cattle. The scheme apparently was that Iowa DNR would approve the revised NMP and then anticipated that a subsequent NMP would be submitted for the additional head of cattle to complete the operation and add additional application fields, expecting that those fields would be approved. The current NMP on which these comments are based is the result.

LEGAL REQUIREMENTS FOR NUTRIENT MANAGEMENT PLANS

Supreme Beef is submitting a nutrient management plan, rather than a manure management plan, because it is classified as an open feedlot operation pursuant to Iowa Code § 459A.102(28). That section states that the operation must be unroofed or partially roofed to be an open feedlot, rather than a confinement. Further, Iowa DNR rule 65.100 defined “partially roofed” to mean that at least 10% of the building housing the animals is unroofed. With respect to Supreme Beef, the animals are confined in a building, never getting outside, and the manure is collected and handled just as with a confinement operation. Thus, Supreme Beef, as a practical matter, is a confinement operation. And because of that, Supreme Beef claims that it does not discharge pollutants and does not need an NPDES permit.

567 IAC § 65.112(8) sets out the requirements for the contents of an NMP. One of those requirements is to show that “[t]here is adequate storage for manure, process wastewater, stockpiled manure and open feedlot effluent, including procedures to ensure proper operation and maintenance of the storage structures.” In addition, the regulations contain several definitions that are relevant to the storage and handling of manure in open feedlot operations.

“Formed settled open feedlot effluent basin” means a settled open feedlot effluent basin which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials. Similar materials may include, but are not limited to, plastic, rubber, fiberglass, or other synthetic materials. Materials used in a formed settled open feedlot effluent basin shall have the structural integrity to withstand expected internal and external load pressures.

“*Open feedlot effluent*” means a combination of manure, precipitation-induced runoff, or other runoff from an open feedlot, before its settleable solids have been removed.

“*Settleable solids*” means that portion of open feedlot effluent that meets all the following requirements:

1. The solids do not flow perceptibly under pressure.
2. The solids are not capable of being transported through a mechanical pumping device designed to move a liquid.
3. The constituent molecules of the solids do not flow freely among themselves but do show the tendency to separate under stress.

“*Settled open feedlot effluent*” means a combination of manure, precipitation-induced runoff, or other runoff originating from an open feedlot after its settleable solids have been removed.

“*Settled open feedlot effluent basin*” or “*runoff control basin*” means a covered or uncovered impoundment which is part of an open feedlot operation, if the primary function of the impoundment is to collect and store settled open feedlot effluent.

So an NMP must explain the specifications of its manure storage and how it will handle its settleable solids and settled open feedlot effluent.

THE SUPREME BEEF NMP DOES NOT COMPLY WITH DNR REGULATIONS

A. The NMP Does Not Explain How the Manure Will Be Stored and Handled

On page 1 of the NMP, Supreme Beef describes the manure storage and manure type as “storage basin effluent” and “rain water added to basin.” It is not clear what this

means. That description does not conform to any of the definitions set out above. “Storage basin effluent” seems to suggest settled open feedlot effluent, but the construction permit issued when this project was purportedly a waste-to-energy operation was for a “wastewater anaerobic lagoon.” As will be discussed below, the difference between a settled effluent basin and an anaerobic wastewater lagoon dictates how the manure application rates will be determined.

Furthermore, on page 7 of the NMP, there is a section titled “Storage Structure Operation and Maintenance.” The information required in that section is described as “procedures to operate and maintain storage structures to hold all wastes accumulated during the storage period, the direct precipitation and runoff from a 25-year, 24-hour storm, including visual inspections, as appropriate.” This requires a fairly detailed description, but this section of the NMP is blank. And the information does not appear to be anywhere else in the NMP. The NMP is therefore seriously deficient in describing how the manure will be stored and handled.

It also seems clear from the regulations that settleable solids in the manure are an issue unique to open feedlots. There is no similar reference to settleable solids in the regulations pertaining to confinement operations. But the NMP says nothing about settleable solids or if they will be managed as required.

Iowa law requires removal of settleable solids from open feedlot runoff prior to releasing runoff liquids (settled effluent). The minimum requirements to satisfy the Iowa law include:

- Settling must occur with runoff from a ten-year recurrence, one-hour storm.

- Runoff flow velocity must be reduced to no more than 0.5 feet per second, for at least five minutes.

- Liquid surface area in a full settling basin must be at least one square foot for every eight cubic feet per hour of runoff flow.

- Settling basins must include adequate capacity to store the settled solids between cleaning events.

None of this information appears in the NMP.

This information is important because the type of manure storage structure affects the nitrogen and phosphorus content and concentration in the waste. Iowa Code § 459A.208, establishing requirements for NMPs, refers to open feedlot effluent. Iowa Code § 459A.102(27), in turn, defines open feedlot effluent as “a combination of manure, precipitation-induced runoff, or other runoff from an open feedlot before its settleable solids have been removed.” This is the same definition quoted above from 567 I.A.C. § 65.100. But it is not clear from the description of the manure storage system on page 1 of the NMP that Supreme Beef is using a settled open feedlot effluent basin. Without an accurate description of the manure storage system and the nutrient content of the effluent, or if it is even effluent as defined, the amount of manure that can be applied to the crop fields at an agronomically appropriate rate cannot be accurately determined. And that determination is the purpose of an NMP.

Also, 567 I.A.C. § 65.105(1)(b) requires a construction permit for a settled open feedlot effluent basin if the number of animals in the open feedlot is more than was approved in a previous construction permit. In this case, the Supreme Beef storage lagoon

was approved when the operation was considered to be an industrial operation with 10,000 head of cattle. The number of cattle is now being increased to 11,600 head. So a new construction permit for a settled open feedlot effluent basin must be obtained by Supreme Beef.

This information does not appear in the NMP, either.

B. Supreme Beef Must Have an NPDES Permit

Because the NMP does not describe how the manure will be stored and handled, there is no basis on which to conclude that there will be no discharge. It was on the premise that Supreme Beef would not discharge that no NPDES permit has been required. Ordinarily, an open feedlot would be required to have an NPDES permit. The NMP should justify why a permit is not required for Supreme Beef.

At this point it is important to review the history of Supreme Beef. The original project was called Walz Energy and was supposed to be a waste-to-energy operation. And even though it was a cattle feeding operation in an open feedlot, it was permitted as an industrial operation because of the waste-to-energy aspect of the operation. On September 29, 2017, Waltz Energy received a construction permit for a “new wastewater anaerobic lagoon.” Because at that time the operation was going to include a manure digester and receive other wastes in addition to manure, it was permitted under general wastewater regulations, not open feedlot regulations. There is no indication in the construction permit that this lagoon would be classified as a settled open feedlot effluent basin, as required for an open feedlot. In fact, the construction permit is for an anaerobic lagoon. In Iowa Code

§ 459.102 the definition of anaerobic lagoon specifically does not include a settled open feedlot effluent basin.

Since Supreme Beef is now clearly an open feedlot operation it must comply with open feedlot regulations. 567 I.A.C. § 109(4) prohibits the construction of settled open feedlot effluent basins in karst terrain. Likewise, an unformed manure storage structure, if that is what Supreme Beef has, cannot be located on karst terrain. 567 I.A.C. § 65.15(8) (a). The IDNR AFO Siting Atlas shows that the area where Supreme Beef is located is in karst terrain. According to retired State Geologist Robert Libra:

Shallow karst affected rock aquifers below earthen waste structures are susceptible to seepage, especially from a very large lagoon [as Supreme Beef has]. In addition, seepage from the lagoon may result in sloughing of the underlying glacial materials into voids in the bedrock, under ponded conditions and up to 30 feet of waste liquid above. Sloughing may result in collapse of the lagoon floor and the draining of the lagoon into the bedrock, as has occurred in Iowa and geologically similar areas.

This clearly shows the likelihood of a discharge of pollutants to a water of the state. Therefore, an NPDES permit is required.

The NMP form, in specifying the information required to complete the form, refers to the requirements of an NPDES permit for the operation. In this case, because Supreme Beef does not have the required NPDES permit, its NMP cannot meet the requirement of tying the NMP's contents with an NPDES permit.

C. Application of the Manure on Crop Fields

The primary purpose of an NMP is to ensure that only enough manure is applied to crop fields to properly fertilize the crops, so that no excess manure discharges to waters of the state. To that end, 567 I.A.C. § 65.112(8) requires that the NMP properly calculate

the amount of manure that Supreme Beef intends to apply to the crop fields designated in the NMP. Doing so obviously requires that the NMP use proper input data and proper procedures to make those calculations.

Pursuant to the NMP under review, Supreme Beef has designated 45 fields where it intends to apply manure. Data shows that 42 of those 45 fields are highly erodible land (HEL). However, there is no indication anywhere in the NMPs to indicate whether the fields are, in fact, HEL. This is relevant to the NMP because the NMP requires preparation of a Revised Universal Soil Loss Equation (2d Edition)(RUSLE2) calculation. The purpose of the RUSLE 2 calculation is to satisfy the requirements of 567 I.A.C. § 65.112(8)(e)(7), to include “[a]ppropriate site-specific conservation practices to be implemented, including as appropriate, buffers or equivalent practices, to control runoff of pollutants to waters of the United States.” In this case, because the RUSLE2 forms in the NMP do not acknowledge the HEL designation of most of the application fields, they do not contain information on “appropriate site-specific practices” to protect water quality.

In addition, 567 I.A.C. § 65.112(8)(e)(9) requires the NMP to contain “[p]rotocols to land-apply manure, process wastewater or open feedlot effluent in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, process wastewater or open feedlot effluent.” This means that the NMP must accurately calculate the appropriate amount of nutrients, nitrogen and phosphorus, that should be applied to the crop fields. There are serious errors and discrepancies in the NMP in this regard. Sierra Club understands that other

commenters will have detailed data-driven comments showing those errors and discrepancies. Sierra Club supports those comments.

D. Requirement for an Antidegradation Review

DNR regulations, 567 I.A.C. § 61.2(2), provide for an antidegradation review for facilities if their operation is likely to cause degradation of water quality. Based on the above discussion, it is likely that Supreme Beef's storage, handling and application of manure will cause degradation to Bloody Run Creek, an Outstanding Iowa Water. As an Outstanding Iowa Water, Bloody Run Creek is entitled to what is called Tier 2.5 protection pursuant to the antidegradation policy. That means that the water quality must be protected.

Antidegradation review is required for new and expanding operations. Since Supreme Beef is expanding its operation from 2,700 head of cattle to 11,600 head, it is definitely expanding its operation. This review requires Supreme Beef to show that its operation will not cause any degradation of the water quality in Bloody Run Creek.

The above-described flaws in the NMP clearly show that an antidegradation review must be part of the DNR's consideration of the NMP. The purpose of the NMP is to ensure that water quality is protected. That, in fact, is why DNR is involved in permitting animal feeding operations. Otherwise, the issues are strictly about agricultural practices.

CONCLUSION

If Supreme Beef claims to be an open feedlot operation, it must comply with the open feedlot regulations, including the regulations for nutrient management plans. As

shown above, the NMP that Supreme Beef has submitted violates the regulations in numerous respects. Therefore, the NMP must be rejected.

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