

ILLINOIS POLLUTION CONTROL BOARD
January 7, 1982

GILT EDGE FARMS, INC.,)
)
 Petitioner,)
)
 v.) PCB 81-85
)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY,)
)
 Respondent.)

JOHN B. WHITON, SNOW, WHITON, SCHROEDER & FISHBURN, LTD.,
APPEARED ON BEHALF OF THE PETITIONER;

STEPHEN GROSSMARK, ASSISTANT ATTORNEY GENERAL, APPEARED ON
BEHALF OF THE RESPONDENT.

OPINION AND ORDER OF THE BOARD (by D. Anderson):

This matter comes before the Board upon a petition for variance filed May 13, 1981 by Gilt Edge Farms, Inc. (GE), a Delaware corporation. The petition requests a variance from Sections 8 and 9(a) of the Illinois Environmental Protection Act (Act) and Rules 102, 205(c), 205(f), 301, 303, 802(b), 802(c) and 802(d) of Chapter 2: Air Pollution and Rules 104(d)(1), 104(d)(2) and 104(d)(3)(D)(i) of Chapter 5: Agriculture Related Pollution. The variance would allow continued operation of a hog raising facility in Stephenson County. On July 1, 1981 the Illinois Environmental Protection Agency (Agency) recommended that the variance be denied or, in the alternative, granted with conditions. On July 15, 1981 GE filed a "reply" to the recommendation. The Board deems this a response and an amended petition pursuant to Procedural Rule 406.

The Board received several objections to the grant of the requested variance, the first on May 29, 1981. Public hearings were held in Dakota on July 22 and 23 and August 3, 1981. Members of the public attended and several testified for and against the variance. This matter is related to an enforcement action pending in the Circuit Court for Stephenson County (People of the State of Illinois v. Gilt Edge Farms, 80-CH-17).

The hog facility was constructed in May, 1973 (Pet. 2). It is situated on a tract within the N 1/2 of Section 10, T27N, R8E of the 4th P.M., Stephenson County. The irregular tract appears

to be about 200 acres. It is to the northeast of the Milwaukee Railroad tracks and Illinois Route 75 (Ex. 1). Dakota is about 2 1/2 miles northeast of the site.

The hog operation is toward the northeast corner of the site, near the junction of Brick School Road with the railroad and Route 75. There are about 25 buildings, some connected. The buildings describe a semicircle. Near the entrance, on the north, are the office, machinery building, mill, feed and whey storage areas. To the east are four connected grow-finish buildings. To the southeast of them are two gestation buildings, each connected to farrow buildings. There are eight nursery buildings. To the south, along the railroad tracks, are gilt pens. Sewage lagoons are to the south of the buildings and west of the gilt pens (R. 13, Ex. 1).

Animals move from south to north, opposite the direction of description above, from gestation to farrowing, nursery and grow finish. Pigs are either finished out at the site and marketed or sold as feeder pigs.

The facility produces an average of about 30,000 swine per year, 10,000 over 55 pounds and 20,000 under 55 pounds. There are 6,000 to 15,000 animals on the site at any time, 11,000 at the time of the hearing (Pet. 2, R. 12).

Each building has a slotted concrete floor. Below is a concrete pit about 6 feet deep. The drain is controlled by a 3 1/2 foot standpipe. Liquid wastes pass through the drain to lagoons, while solids are periodically pumped for land application (Pet. 3, R. 15).

The grow finish buildings discharge to lagoon number 1; the gestation and farrow buildings to lagoon number 2. Between 1 and 2 are located lagoons 3, 4, 5, 6 and 7. These latter are sequential with overflow going to the lagoons with higher numbers. There are pipes from 1 and 2 to 4 and thence to 5, 6 and 7 (R. 76, 98). Any overflow from 7 goes by 8-inch pipe to holding ponds 8 and 9. Water from the holding ponds is used for irrigation and watering cattle. There is no discharge to waters of the state (R. 16, 19, Ex. 1, Pet. 3).

The facility generates about 12,000 to 13,000 gallons per day of liquid wastes. The Agency believes the flow is somewhat higher. The following are the approximate volumes of the lagoons:

<u>Number</u>	<u>Gallons</u>
1	500,000
2	430,000
3	210,000
4	230,000
5	222,000
6	236,000
7	340,000
8 & 9	Undetermined

GE has about 1,000 acres under cultivation in the vicinity (Pet. 16). The solid wastes are applied by knifing them into the ground rather than topspreading (R. 18, 41). The solid wastes are applied in the spring and fall (R. 89, 97). Pit pumping used to be done immediately before spreading. GE has now acquired a lagoon at a remote site to take solids which must be pumped at a time when land application is not feasible because of weather or crop cycles (R. 88, 101).

The remote lagoon is about 10 miles east of the hog operation and about 4 miles north of Pecatonica. It was placed in operation in the spring of 1979 (R. 100). It is about 200 feet square and up to 12 feet deep, holding about 1,500,000 gallons (R. 88). The lagoon has a pipe at its low point from which waste is continuously pumped and recirculated into the lagoon to keep solids in suspension. This piping is used to withdraw or add material (R. 100).

The facility used, as part of its animal feed, whey, a by-product of cheese manufacture. Prior to December 1979, GE was obliged by contract to take all the output of several manufacturers. When this output exceeded the facility's feed requirements, the excess was dumped into lagoon 3 (R. 22). This amounted to about 30,000 gallons per day (Pet. 12). Cessation of this practice is a portion of GE's compliance plan.

Lagoon 3 appears to be outside the normal wastewater flow from the hog buildings, although it discharges to lagoon 4 which receives hog waste.

About 3,650,000 gallons per year of solid waste or sludge is pumped from the pits below the buildings (Pet. 4). The material in the pit is agitated and transferred to a vacuum wagon or tank truck (R. 18).

The pits beneath the grow-finish and nursery buildings are referred to as "high volume pits". They have been pumped twice per year. The others are "low volume pits" which have been pumped only once per year. Increased pumping frequency is a part of the compliance plan discussed below (R. 20, 85, 97, Pet. 15).

APPLICABLE REGULATIONS

The petition requested a variance from several regulations in Chapters 2 and 5. The Agency has argued that most of these are inapplicable in this case. In its reply brief, GE appears to have withdrawn the variance requests. The variances from all but Rule 102 of Chapter 2 and Section 9(a) of the Act will be denied as unnecessary, GE having failed to demonstrate that the remaining regulations are being violated.

The Agency argues that the Board cannot grant a variance from §9(a) of the Act because of lack of authority to grant variances from the Act itself. The Agency quotes §35(a) which provides, in part, as follows:

The Board may grant individual variances beyond the limitations prescribed in the Act, whenever it is found, upon presentation of adequate proof, that compliance with any rule or regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship.

This language was in the Act when the Board was created. From the outset, the Board granted variances from the Act itself especially when there were no rules, regulations, requirements or orders of the Board from which to grant variances (Deere & Co. v. IEPA, PCB 70-20, 1 PCB 229, December 22, 1970). This was accepted at a time when the legislative history was fresh. The Board finds that the intent of §35(a) was to allow variances from the Act.

In this case there are no odor standards. Also, Rule 102, while merely repeating the statutory prohibition, is nevertheless a valid rule. Of course, the Board often refuses to grant variances from the Act. Nevertheless, while not always specifically so stated, variances by their nature often indirectly allow general or specific environmental protection provisions of the Act to be abridged temporarily where sufficient hardship can be shown.

From the evidence presented by GE, the Agency and the public, the Board finds that GE violated §9(a) of the Act and Rule 102 of Chapter 2 through emission of odors which unreasonably interfered with enjoyment of life or property. The Board will consider whether GE has shown arbitrary or unreasonable hardship so as to entitle it to a variance from Rule 102 and §9(a). Because the compliance costs are intertwined with the hardship, the Board will first discuss compliance alternatives.

COMPLIANCE PROGRAM

There are several possible sources of odor, including

1. Animals
2. Pits
3. Lagoons 1 and 2
4. Lagoon 3
5. Lagoons 4 - 7
6. Holding ponds 8 and 9
7. Remote storage lagoon
8. Land application of animal waste

The variance request is directed at only some of these. The animals and holding ponds 8 and 9 are apparently minor sources of odor. The compliance programs are not directed at alleviating any odor from these sources.

The remote storage lagoon is described in connection with the compliance program for the main facility. There is no specific request for a variance for it; Petitioner contends that it has no odor problem; and, the facility description is sketchy. The Board construes the petition as not requesting a variance for the remote storage facility.

Lagoon 3, which was used for whey disposal, is not a part of the hog waste system. Indeed, its past use appears to have been for special waste disposal, a totally unrelated business which may have been subject to Chapters 7 and 9. Noting that GE contends there are no more odors from Lagoon 3, the Board will deny this portion of the variance.

GE has equipment to either top spread or inject sludge on land. The former usually creates more odor problems. GE has indicated that it knifes in sludge that is particularly malodorous rather than top dressing it. The Board construes the petition as not requesting a variance from the odor rules for the land application operations at areas remote from the hog facility.

The petition appears to primarily request a variance for odors emitted from the pits beneath the buildings and the receiving lagoons. There are several steps proposed or taken which may alleviate odors. Some of the following steps are mutually exclusive and others complement or overlap as will be discussed below:

1. Reduction in animal population
2. Aerobic conditions within pits
3. Anaerobic treatment in pits with additives
4. Anaerobic sludge digester
5. More frequent pit pumping
 - a. GE proposes to pump solids several times per year
 - b. The Agency proposes daily pumping
6. No disposal of whey in lagoons
7. Reduction in solids going into lagoons
8. Installation of machinery for solids drying
9. Establishment of aerobic conditions in lagoons
10. Anaerobic conditions in lagoons with additives to prevent odor
11. Dredging and cleaning of lagoons
12. Abandonment of lagoons

The major difference between the Agency and GE concerns whether to establish aerobic conditions in the pits and lagoons. The Agency wants installation of aeration equipment, while GE wants to add "Micro-aid" to food, and directly to pits and lagoons. This commercial product is supposed to allow odorless anaerobic decomposition.

At the Agency's urging, GE purchased aeration equipment and attempted to establish aerobic conditions in one pit. The attempt was abandoned as unsuccessful after 60 days (R. 39). The Agency believes the attempt failed because the pit was not first pumped and cleaned. On the other hand, GE has presented experts who claim that there are no aerobic hog waste systems in operation (R. 241, 252, 529, 690).

The Board takes official notice of the record in Cantrell v. Gaines, PCB 79-254, October 30, 1980. The Board found that this hog facility was successfully operated with aerobic conditions in pits.

The Agency's case largely rests on a University of Illinois study in which Micro-aid and several similar products were added to barrels containing hog waste. A panel judged the odors after 6 weeks. Micro-aid was found ineffective in reducing odor. However, GE claims that the product was not tested long enough for improvement to show up (Resp. Ex. 1, R. 177, 654).

GE estimates the cost of installing aeration at \$78,000 to \$94,000. This will also involve additional electric drops and considerably higher electric bills, which are not figured into this figure (R. 29, 34). GE estimates the Micro-aid to cost about \$20,800 during 15 months (R. 144).

GE has presented convincing evidence in this case supporting anaerobic conditions. The Agency's case is too weak to persuade the Board that the anaerobic system should be denied a trial, considering its low relative cost.

There is an accumulation of solids throughout the lagoon system. This has arisen from two sources: the whey which was dumped into lagoon 3 and excessive carryover of solids from the pits. The former should be alleviated by cessation of whey dumping; the latter by more frequent solids pumping from the pits.

GE's operation is intended to accomplish solids separation in the pits. If excess solids are allowed to carry over into the lagoons, some mechanism must be devised to pump them out of lagoons 1 and 2 for land application. Otherwise it is likely these lagoons will always cause problems. The Board will, however, allow GE to attempt a trial with Micro-aid and frequent pit pumpings. There is also discussion of a solids separator costing \$30,000 to \$70,000 (R. 320).

The most ambitious program would involve construction of an anaerobic sludge digester, with collection and use of the gas generated. This is estimated to cost \$250,000 to \$450,000. GE at one time was offered a \$50,000 grant from the U.S. Department of Energy for this project. It was not undertaken because of doubts as to whether enough gas could be recovered to make the project economically feasible, even with the grant (R. 49, 266).

GE has cleaned lagoon 3. The Agency wants 1 and 2 cleaned, to be used only for emergency overflows from the buildings, which it wants pumped daily. It also wants 3 through 7 to be cleaned and filled in. GE believes that its additive is causing gradual degradation of the accumulation of solid residues from past operations; however, it has not disclosed any plan to dredge or clean the lagoons, other than 3.

GE has contended that the dredging and cleaning would cost more money than it has. The Board will not at this time require dredging and cleaning. However, GE may find it necessary to do this in order to reduce odors to acceptable levels prior to expiration of the variance.

There is also testimony concerning floating solids in the lagoons (R. 188). It would appear quite simple to skim this off the surface for proper disposal. The Board will require this.

Hog odor is cyclical in that it tends to be worse in the summer and worse when more animals are present. The facility is not now operating at full capacity and winter is approaching. These factors tend to reduce the odor.

In finding arbitrary or unreasonable hardship, the Board must balance environmental impact against compliance costs.

There is evidence that odors have abated considerably in the past year (R. 112, 122, 128, 349, 361, 380, 469; Pet. Ex. 11).

GE has presented financial data indicating substantial losses over recent years. The Board finds that it would impose arbitrary or unreasonable hardship to require GE to come into immediate compliance with Rule 102 of Chapter 2 and §9(a) of the Act. A reasonable time will be allowed for testing with Micro-aid.

The evidence indicates that past operations had gross disregard for the Act and Board regulations. This variance is not intended to have any retroactive effect.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

Petitioner, Gilt Edge Farms, Inc., is granted a variance from Section 9(a) of the Environmental Protection Act (Act) and Rule 102 of Chapter 2: Air Pollution, subject to the following conditions:

1. This variance will expire December 31, 1982.
2. This variance will apply only to animal wastes at Petitioner's hog facility situated in Section 10, T27N, R8E of the 4th PM, Stephenson County. This variance will not apply to odors from: Petitioner's remote storage lagoon described in the Opinion; lagoon 3; holding ponds 8 and 9; disposal of cheese whey; or land application of hog wastes.
3. Petitioner shall skim floating debris from its lagoons weekly during the term of this variance.
4. Petitioner shall pump solids from pits below buildings in order to prevent excess solids carryover into the lagoons, and in any event no less often than the following schedule:
 - a. High volume pits - twice per year
 - b. Low volume pits - annually.
5. Petitioner shall use an odor-reducing additive in pits, lagoons and animal feed according to product directions.

- 6. Petitioner shall not cause or allow violations of any applicable provisions of Chapters 7 or 9.
- 7. On or before September 1, 1982, Petitioner shall report to the Illinois Environmental Protection Agency concerning the success of its odor reduction program.
- 8. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Variance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the Certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read and fully understanding the Order in PCB 81-85, hereby accept that Order and agree to be bound by all of its terms and conditions.

SIGNED _____
 TITLE _____
 DATE _____

IT IS SO ORDERED.

Mr. Goodman concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 7th day of January, 1982 by a vote of 4-0.

Christan L. Moffett
 Christan L. Moffett, Clerk
 Illinois Pollution Control Board