National Pollutant Discharge Elimination System (NPDES) Permit Program

F A C T S H E E T

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for the **Gill Dairy, LLC**

Public Notice No.: 12-05-078
Public Notice Date: May 22, 2012
Comment Period Ends: June 22, 2012

OEPA Permit No.: **4IK00027*BD**
Application No.: **OH0136174**

Name and Address of Applicant:

Gill Dairy, LLC
14997 Charleston-Chillicothe Road
South Solon, Ohio 43153

Name and Address of Facility Where Discharge Occurs:

Same as Applicant
Fayette & Madison Counties

Receiving Water:
Unnamed Tributary of East Fork Paint Creek

Subsequent Stream Network: **East Fork Paint Creek**
Paint Creek
Scioto River
Ohio River

Introduction

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act and Ohio Water Pollution Control Law (ORC 6111). Decisions to award variances to Water Quality Standards or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

Legal Records Section
Ohio Environmental Protection Agency
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits and Compliance Section
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

Background

The National Pollutant Discharge Elimination System (NPDES), created under the Clean Water Act of 1972, provides a means for monitoring, tracking, and preventing discharges of pollutants to waters of the states. Section 301 of the Clean Water Act and 40 CFR 122.1(b) requires NPDES permits for the discharge of pollutants from any point source into waters of the State. Pursuant to Section 502(14) of the Clean Water Act and 40 CFR 122.2, a Concentrated Animal Feeding Operation (CAFO) is listed in the definition of a point source. A discharge can be considered any addition of any pollutant or combination of pollutants to water of the United States. This includes runoff from feedlots, stock piled manure, silage bunkers, overflow from storage ponds, overflow from animal watering systems, and runoff from fields on which manure is not applied in accordance with proper agricultural practices.

Waters of the United States not only include rivers, streams, intermittent streams and lakes, but also irrigation ditches, laterals, canals, etc. which eventually flow into rivers, streams, and lakes.

Other federal regulations require concentrated animal feeding operations to acquire an NPDES permit. These include, but are not limited to the following:

- 40 CFR 122.3: Establishes concentrated animal feeding operations as "point sources subject to the NPDES permit program".

- 40 CFR 122.21: States that all CAFOs which discharge have a duty to seek coverage under an NPDES permit.

- 40 CFR 122.23: Details the fact that CAFOs are point sources that require NPDES permits for discharges. Once an operation is defined as a CAFO, best management practices for CAFOs apply to all animals in confinement at the operation and all manure, litter and process wastewater generated by those animals or the production of those animals, regardless of the type of animal.

Based on 40 CFR 122.23, Gill Dairy meets the definition of a large CAFO and is required to maintain coverage under an NPDES permit. The Gill Dairy facility is currently permitted under the Ohio Department of Agriculture, Livestock Environmental Permitting Program (ODA, LEPP) for 4,047 mature dairy cattle. Gill Dairy has previously had land application discharges of manure to waters of the State.

This permit does not allow a discharge of manure. All open manure storage structures are required to maintain capacity for the direct precipitation and runoff associated with a 100-year, 24-hour storm event.

There are several pollutants associated with discharges from CAFOs, including: nutrients (particularly nitrogen and phosphorus), organic matter, solids, pathogens, and odorous/volatile compounds. Additional pollutants also include salts and trace elements and to a lesser degree antibiotics, pesticides, and hormones. These pollutants can enter the environment through a number of pathways, including: surface runoff and erosion, overflows from lagoons, spills and other dry-weather discharges, leaching into soil and groundwater, and volatilization of compounds and subsequent redeposition to the landscape. These discharges of pollutants can originate from animal confinement areas, manure handling and containment systems, manure stockpiles, and cropland where manure is applied. However, the NPDES permit will generally prohibit discharge of these to waters of the State.

Location of CAFO/Receiving Water Use Classification

Gill Dairy LLC is located at 14997 Charleston-Chillicothe Road near South Solon, Ohio in Paint Township, Madison & Fayette Counties. The nearest stream to the Gill Dairy LLC facility is an unnamed tributary of East Fork Paint Creek. The subsequent stream network includes East Fork Paint Creek, Paint Creek, Scioto River, and ultimately the Ohio River. The Gill Dairy LLC farm is in the East Corn Belt Plains Ecoregion. Figure 1 shows the approximate location of the facility and the surrounding area.

East Fork Paint Creek has been designated under Ohio Water Quality Standards (OAC 3745-1-09) for the following use designations: Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, and Primary Contact Recreation.

Facility Description

Gill Dairy LLC, an existing dairy that is a large Concentrated Animal Feeding Operation, is designed to confine 2,500 mature dairy cows for milk production. The facility has been permitted by the Ohio Department of Agriculture to expand to 4,047 mature dairy cattle. The manure at the facility is removed from the barns and transferred to a settling basin where sand is separated out for reuse in the barns and manure solids are also separated from the liquid manure. Sand lanes and a solid manure separating system are also used at the facility.

The liquid manure is pumped from the settling and separation train to two manure storage lagoons. Silage leachate and contaminated storm water is contained in a contaminated storm water storage pond. The storage ponds provide for approximately 33,000,000 gallons of manure storage. Open structures are designed for the 100-year, 24-hour storm event. Sanitary wastewater generated at the facility is disposed of through an on-site septic system.

The expansion and operation of the CAFO is also regulated by a Permit-to-Install and Permit-to-Operate issued by the Ohio Department of Agriculture. The discharge of storm water associated with industrial activity at the CAFO will be authorized under the NPDES permit if the effluent maintains Ohio Water Quality Standards in the unnamed tributary of East Fork Paint Creek.

Description of Land Application Procedures

At Gill Dairy, the liquid manure and contaminated storm water are applied on surrounding cropland via dragline manure application. A tractor used for manure applications is outfitted with a gen-till soil incorporation unit. A center pivot irrigation system is also available for liquid manure applications. 3,518 acres of cropland are available for manure applications. Crops planned to be grown on land which receives manure include corn, corn silage, soybeans, and alfalfa. Gill Dairy currently has a Manure Management Plan developed for its NPDES permit and ODA permit-to-operate. This plan is available by contacting Ohio EPA.

As stated in Part II, J, Ohio EPA can notify Gill Dairy at any time that the plan does not meet the minimum requirements of the permit and request plan modifications, which are required to be completed within 30 days of notification. It should be noted that comments regarding manure management plan requirements contained in the permit conditions should be made during this public notice period of the draft permit.

Receiving Water Quality / Environmental Hazard Assessment

The Ohio EPA 2010 Integrated Report indicates that the next scheduled monitoring for East Fork Paint Creek is in 2022. East Fork Paint Creek is listed as impaired with respect to human health, recreation, and aquatic life. It is expected that a final Total Maximum Daily Load (TMDL) Report for the Paint Creek watershed will be issued in 2012.

Additional Effluent Limitations and Monitoring Requirements

Effluent limitations and monitoring requirements contained in Parts II and VII of the permit are based on 40 CFR Parts 122, 123, 412, OAC Chapters 901:10-2, United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Practice Standards, and best professional judgment.

The NPDES permit requires the development of a Manure Management Plan. The Manure Management Plan shall address the form, source, amount, timing, agronomic rate, and method of application of nutrients to each field to achieve compliance with Part I, A of the permit, assure appropriate agricultural utilization of the nutrients, and minimize movement of pollutants to surface waters.

The NPDES permit requires the submission of an annual report to Ohio EPA in Part II that shall include at a minimum the following information:

1. The number and type of animals confined in the previous year.
2. Estimated amount of manure generated in the previous year in gallons or tons.
3. Total amount of manure removed from the facility for land application and/or distribution or utilization in gallons or tons.
4. Total number of acres for land application covered by MMP.
5. Total number of acres under the control of the permittee that were used for land application in the previous year.
6. Manure distribution and utilization records.
7. Summary of the number of discharges from the production area and the number of discharges from land application areas that were not composed of agricultural storm water runoff for the past year, including date, time and approximate volumes.
8. Information on any non-compliance not previously reported to Ohio EPA. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
9. A statement indicating if the MMP was developed by a certified manure management planner.
10. A copy of the training/seminar attendance documentation as required by Part II, G of this permit.
11. The actual crop(s) planted and actual yield(s) for each field, the actual nitrogen and phosphorus content of the manure, the results of calculations conducted in accordance with Part II, J, 4, and the amount of manure applied to each field during the previous twelve months.

The NPDES permit includes manure land application requirements in Part VII. These requirements include the development of a total nutrient budget for the operation, determination methods for appropriate manure application rates, record keeping requirements, application restrictions, and application timing restrictions.

The NPDES permit requires specific monitoring and inspection requirements. The following table from Part VII of the permit contains the requirements along with the justification for inclusion of the requirements in the permit.

Table 1. Monitoring and Inspection Requirements

Action	Frequency	Record Keeping Requirements	Justification
Grab samples shall be taken of all discharges from the production area. Clean storm water that has been diverted does not need to be sampled.	Each time they occur	Date and time of sample, results of analysis, and the information required in Part III, 5 and 6.	Best Professional Judgment – To ensure compliance with Part I, A of the permit.
All discharges from the production area and land application area shall be recorded in the operating record.	Each time they occur	Cause, volume, and duration of discharge and any corrective actions needed and the dates those actions were taken.	40 CFR Part 122.42 and 40 CFR Part 412.37 requires these records to be maintained.
Grab samples shall be taken of discharges from land application areas where manure was applied on frozen and/or snow covered ground.	Each time they occur	Date and time of sample, results of analysis, and the information required in Part III, 5 and 6.	Best Professional Judgment – To ensure compliance with Part I, A and Part VII of the permit.
Representative samples of the manure to be land applied shall be taken from each source (e.g. each lagoon, storage tank, or permanent stockpile area must be sampled).	1/year	The information required in Part III, 5 and 6 and Part VII.	40 CFR Part 412.4 and 40 CFR Part 412.37 requires the sampling and records to be maintained.
Representative soil samples of the manure land application fields.	Every 3 years	The information required in Part III, 5 and 6 and Part VII.	40 CFR Part 412.4 and 40 CFR Part 412.37 requires the sampling and records to be maintained.
Monitor operating level of all manure storage or treatment facilities.	1/week	Date and time of observation, manure level in each structure.	40 CFR Part 412.37 requires the inspections and record keeping.
Inspect manure storage or treatment facilities, including devices channeling contaminated storm water to the manure storage or treatment facility for evidence of erosion, leakage, animal damage or discharge.	1/week	Date and time of inspection, structural integrity, vegetation condition, and any corrective actions needed and the dates those actions were taken.	40 CFR Part 412.37 and Best Professional Judgment require the inspections and record keeping.
Inspect storm water diversion devices or runoff diversion structures.	1/week	Date and time of inspection, observations of flow quantity and color, structural integrity (e.g. signs of cracks, sparse or stressed vegetation, erosion, etc.), any corrective actions needed and the dates those actions were taken.	40 CFR Part 412.37 and Best Professional Judgment require the inspections and record keeping.
Inspect drinking and cooling water lines that are located above ground, readily visible or accessible for daily inspection.	Daily	Date and time of inspection, number of leaks, any corrective actions needed and the dates those actions were taken.	40 CFR Part 412.37 requires the inspections and record keeping.
Monitor forecast at the CAFO location.	Every land application event	Date, weather conditions (including percentage chance of rain) 24 hours prior to application, at the time of application, and 24 hours after application.	40 CFR Part 412.37 and Best Professional Judgment require the monitoring and record keeping.
Inspect land application fields.	In accordance with MMP	Date and signs of discharge or runoff into surface waters and/or conduits to surface waters of the State.	Best Professional Judgment requires the monitoring and record keeping to document compliance with 40 CFR Part 412.4.
Inspect land application equipment.	In accordance with MMP	List of equipment, date of inspections, corrective actions, calibration dates.	40 CFR Part 412.4 and Best Professional Judgment require the inspections and record keeping.

Figure 1. Location of Gill Dairy, LLC