

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 **Zylstra Dairy, Ltd.**

Public Notice No.: 11-08-007
Public Notice Date: August 8, 2011
Comment Period Ends: September 8, 2011

OEPA Permit No.: **2IK00013*BD**
Application No.: **OH0132799**

Name and Address of Applicant:

Zylstra Dairy, Ltd.
11753 Road 21
Antwerp, Ohio 45813

Name and Address of Facility Where
Discharge Occurs:

Same as Applicant
Paulding County

Receiving Water:
Unnamed Tributary of South Creek

Subsequent
Stream Network: **South Creek**
North Creek
Zuber Cutoff
Maumee River
Lake Erie

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 that 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, the NPDES requirements 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, Zylstra Dairy, Ltd. meets the definition of a CAFO and is required to maintain coverage under an NPDES permit. Zylstra Dairy, Ltd. is currently permitted under the Ohio Department of Agriculture, Livestock Environmental Permitting Program (ODA, LEPP) state permitting program through a Permit to Operate.

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

Zylstra Dairy, Ltd. is located at 11753 Road 21 near Antwerp, Ohio in Harrison Township, Paulding County. The nearest stream to the Zylstra Dairy, Ltd. facility is an unnamed tributary of South Creek. The subsequent stream network includes South Creek, North Creek, Zuber Cutoff, Maumee River, and ultimately Lake Erie. The Zylstra Dairy, Ltd. farm is in the Huron/Lake Erie Plains Ecoregion. Figure 1 shows the approximate location of the facility and the surrounding area.

South Creek has been designated under Ohio Water Quality Standards (OAC 3745-1-11) for the following use designations: Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, and Primary Contact Recreation.

Facility Description

Zylstra Dairy, Ltd., is an existing dairy that is designed to confine 1,400 mature dairy cows for milk production. The manure is removed from the barns and transferred to sand settling basins and then to manure storage ponds. Silage leachate and contaminated storm water is contained in a contaminated storm water storage pond. Open structures are designed for the 100-year, 24-hour storm event. Zylstra Dairy does not have direct operational control over the land application of any waste produced by the facility. All of the waste generated by the facility will be sold or given away to outside sources. Sanitary wastewater generated at the facility is disposed of through an on-site septic system.

The operation of the CAFO is also regulated by the 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 South Creek.

Description of Land Application Procedures

The NPDES permit application for the Zylstra Dairy, Ltd. farm indicates that the estimated amount of manure produced annually at the facility will be transferred to others persons for land application.

Zylstra Dairy, Ltd. currently has a manure management plan developed for its CAFO NPDES permit. This plan is available by contacting Ohio EPA. Please note that a portion of the Manure Management Plan conditions become effective upon permit coverage, such as monitoring and inspection requirements, setbacks, timing restrictions, etc. See Section “Additional Effluent Limitations and Monitoring Requirements” below. 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.

The NPDES permit will require Zylstra Dairy, Ltd. to operate and manage their production areas as non-discharging systems. Manure will be required to be managed and transported in such a fashion as to prevent leaks, spills, and runoff. For manure that is sold to another party, the buyer must be notified of nutrient properties contained in the manure as determined from laboratory manure analysis. Land applied manure shall be managed in accordance with the Manure Management Plan and requirements of the NPDES permit. Storm water runoff discharges are allowed from land application fields to surface water provided the manure is applied in accordance with the Manure Management Plan and the conditions of this permit.

Receiving Water Quality / Environmental Hazard Assessment

Ohio EPA does not have published water quality data on South Creek. The Ohio EPA 2010 Integrated Report indicates that the next scheduled monitoring for the Maumee River Mainstem (IN border to Tiffin River) is in 2016 with a Total Maximum daily Load (TMDL) report planned for 2019.

Outfall Information and Parameter Selection

The following excerpts from the Ohio Administrative Code (OAC) give the Ohio EPA the right to require monitoring of specific parameters in NPDES permits:

- OAC 3745-33-08(D): The director may include in an Ohio NPDES permit any other terms or conditions he finds reasonable and appropriate for the prevention and abatement of pollution.
- OAC 3745-33-07(A)(3): Pollutant monitoring of pollutants in groups one, two, or three of the pollutant assessment may be specified by the director.

The most commonly recognized pollutants associated with Concentrated Animal Feeding Operations include biochemical oxygen demand (BOD), total suspended solids (TSS), organics, bacteria, and nutrients. Typically these nutrients are in the form of various nitrogen and phosphorus compounds. These pollutants have the potential to impair water quality and fall within groups 2 or 3 of the pollutant assessment.

It is the intent of the NPDES permit to ensure that these substances do not impair water quality. Therefore, the permit has been set up in such a way as to monitor sites or sampling stations that cause, or have the potential to cause, water quality violations. The sampling stations are described as follows.

Station 601

Monitoring Station 601 (Table 2) shall refer to the Zylstra Dairy, Ltd. storm water basin outfall to the unnamed tributary of South Creek. Samples for conventional pollutants (5-day Biochemical Oxygen Demand, Ammonia-Nitrogen, and Total Phosphorus) along with precipitation shall be taken at a frequency of twice per year, during the months of May and November.

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 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. 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, I, 4, of the permit 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. |

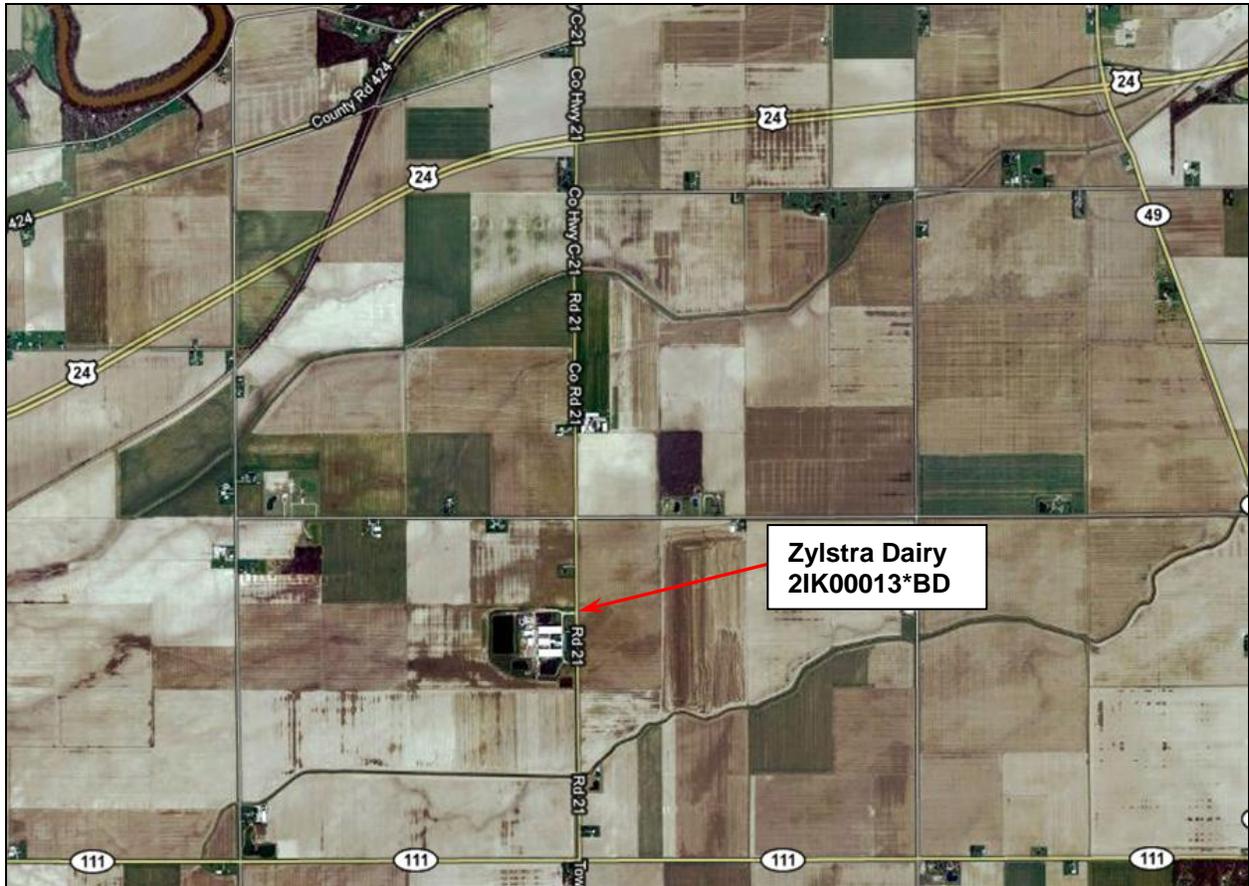


Figure 1. Location of Zylstra Dairy, Ltd.

Table 2. Storm Water Basin monitoring requirements for Zylstra Dairy, Ltd. outfall 2IK00013601 and the basis for their recommendation.

| Parameter | | Effluent Limits | | | | Justification |
|------------------------------------|--------|-----------------|----------------------|------------------|-------|------------------|
| | | Concentration | | Loading (kg/day) | | |
| | | 30 Day | Daily | 30 Day | Daily | |
| Precipitation | Inches | ----- | Monitor ^b | ----- | ----- | BPJ ^a |
| BOD ₅ | mg/L | ----- | Monitor | ----- | ----- | BPJ |
| Ammonia -N (NH ₃ -N) | mg/L | ----- | Monitor | ----- | ----- | BPJ |
| Phosphorus, Total | mg/L | ----- | Monitor | ----- | ----- | BPJ |

^aDefinitions: BPJ = Best Professional Judgment

^bMonitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality, frequency, and facility performance.