

ENVIRONMENTAL ANALYSIS AND DECISION ON THE NEED
FOR AN ENVIRONMENTAL IMPACT STATEMENT (EIS)

Form 1600-8

Department of Natural Resources (DNR)

Region or Bureau Northeast Region
Type List Designation Type II

NOTE TO REVIEWERS: This document is a DNR environmental analysis that evaluates probable environmental effects and decides on the need for an EIS. The attached analysis includes a description of the proposal and the affected environment. The DNR has reviewed the attachments and, upon certification, accepts responsibility for their scope and content to fulfill requirements in s. NR 150.22, Wis. Adm. Code. Your comments should address completeness, accuracy or the EIS decision. For your comments to be considered, they must be received by the contact person before 4:30 p.m., March 16, 2001.

Contact Person Dave Bougie
Title Animal Waste Specialist
Address Wisconsin DNR PO Box 10488 Green Bay WI 54307-0448
Telephone Number (920) 448-5130

Applicant: Robert Zahn

Mailing Address: 6661 Mueller Hill Road, Gillet, WI 54124

Title of Proposal: Zahn's Farms, LLC WPDES PERMIT APPLICATION

Location: SWQ Section 8, T28N, R18E, Gillet Township, Oconto County

PROJECT SUMMARY – DNR Review Information Based on:

1. General Project Description

This environmental assessment is associated with Wisconsin Pollutant Discharge Elimination System (WPDES) permitting and approval actions for a proposed dairy operation named Zahn's Farms, LLC. The operation has not held a WPDES permit in the past. Permits are normally issued for up to five years. The proposed effective date is March 10, 2001 and the proposed expiration date is December 31, 2005.

Zahn's Farms is a proposed dairy expansion to be completed and populated over the next several years. The farm is located at one central location, but with two distinct sites: the Dairy Center and the Home Farm. The two sites are contiguous, with the Dairy Center located on the east side of the Home Farm. Mueller Hill Road borders the south of both sites. The Dairy Center was constructed in 1999 and 2000, and consists of the milking parlor, a freestall barn and an earthen-lined manure storage facility. There are no outdoor loafing areas at the Dairy Center, nor are any planned. The Home Farm currently houses milking cows. These cows will all be housed at the Dairy Center once construction is complete. Then the Home Farm will house the dry cows and heifers. An earthen-lined manure storage facility was built in 1990 and will hold all the manure generated by the dry cows and heifers. There are five outdoor lots utilized by the cows and heifers. A feed storage system is planned for the storage of corn silage and haylage. Zahn's Farms plans to maintain at least 800 head of cattle or 1100 animal units by February 1, 2001. Since the operation will house more than 1,000 animal units, a Wisconsin Pollutant Discharge Elimination System (WPDES) permit is required. Per NR 243, Wis. Adm. Code, a WPDES permit is needed for all livestock operations that house more than 1,000 animal units. With 800 head of dairy cattle, approximately four million gallons of manure and wastewaters will be generated on an annual basis. At the present time, Zahn's Farms has over 1,600 acres available to receive the manure and wastewater on an annual basis.

Expansion Overview: A manure treatment system is planned for construction and operation by December 2001. At this time, this treatment system is expected to be a methane digester. Additional expansion plans include the construction of another new freestall barn and fill it to capacity by the end of 2002. By the end of 2004, Zahn's Farms plans to have a third freestall barn built and filled to

capacity. Total cattle numbers at the end of 2004 are expected to be approximately 2200 milking cows, with 330 dry cows and over 2,000 heifers at various weights, or approximately 3600 animal units. There are no additional manure storage facilities planned for construction. With over 3600 animal units, it is estimated that over ten million gallons and seven thousand tons of manure will be produced on an annual basis.

The project cost for this construction is estimated at \$2,700,000

The Department of Natural Resources has the following authorities regarding this operation:

- Wisconsin Pollutant Discharge Elimination System (WPDES) Permits for Concentrated Animal Feeding Operations (CAFO), those operations with 1,000 animal units or more
- Emission limitations from s. NR 415.04, Wis. Adm. Code, covering fugitive dust sources and s. NR 415.05, Wis. Adm. Code, covering emissions of particulate matter from processes
- Odor control requirements may be imposed by order of the Department if the Department determines that a violation of s. NR 429.03 – Malodorous Emissions, Wis. Adm. Code, occurs
- Wisconsin Pollutant Discharge Elimination System (WPDES) Permits for Land Disturbing Construction Activities affecting five or more acres (WI-0067831)
- Review and approval authority of manure storage facilities and runoff control systems
- Manure Management Plan review and approval
- Notice of Intent (NOI) for land disturbing construction activities

2. List documents, plans, studies or memos referred to and provide a brief overview

The following documents have been used in conducting this environmental assessment:

- Wisconsin Pollutant Discharge Elimination System (WPDES) Permit application
- Environmental Analysis Questionnaire for Livestock Operations completed by Steve Gostisha
- Preliminary Manure Management Plan prepared by Eric Anderson
- Post-construction documentation for manure storage facilities/runoff control systems submitted by the Oconto County Land Conservation Department
- Soil survey maps, topographic maps, wetland maps and aerial photographs
- Internal Department correspondence regarding possible environmental impacts associated with the operation

DNR EVALUATION OF PROJECT SIGNIFICANCE (complete each item)

1. Environmental Effects and Their Significance

Discuss the short-term and long-term environmental effects of the proposed project, including secondary effects, particularly to geographically scarce resources such as historic or cultural resources, scenic and recreational resources, prime agricultural lands, threatened or endangered species or ecologically sensitive areas, and the significance of these effects. (The reversibility of an action affects the extent or degree of impact.)

Physical

The site has most recently been used for cropland or other agricultural related purposes. In many respects, building the operation will result in the conversion of the land from one type of agriculture use to another. Approximately 52,900 cubic yards of land will be disturbed over a period of three years as a direct result of the construction of the facilities associated with the building of the operation. Short-term physical impacts would be primarily associated with construction activities at the site. Disturbance of former cropland or agricultural related lands, noise and dust from machinery and traffic from construction equipment are the expected short-term environmental impacts. Storm water runoff from the site during the construction phase could also result in environmental impacts such as silt and sediment being transported to area wetlands and surface waters. If properly controlled, impacts associated with construction activities will be relatively short in duration and would not be expected to be significant.

Stormwater runoff controls must be in place to control any leachate from feed storage sites. If the Department discovers a water quality problem related to stormwater runoff, the operation will be required to implement a management plan and install any necessary

best management practices.

Long-term physical impacts include aesthetics. The construction of the operation will result in visual changes at the site as a result of new facilities (e.g., manure storage facilities) or buildings. There will also be noise and possibly dust associated with increased traffic in the area due to transportation of livestock, feed, and milk. Road access to the facility needs to be managed in a way that minimizes the increased disturbance from noise and dust to area residents and their properties. Because the construction of this operation will concentrate a higher density of animals on this agricultural land, it may increase nutrient levels above crop needs on the areas used for application of manure generated by this operation.

Given that much of the land in the area is used for agriculture and is relatively sparsely populated, increased traffic and visual impacts are not considered to be significant. In addition, while the physical appearance of the site will be substantially changed, the use of the site will remain agricultural in nature.

One possible long-term physical impact associated with the operation is that odors in the immediate area could be objectionable during certain periods of the year. Odors from the operation, especially during agitation of the manure contained in a storage facility in preparation for landspreading activities are unavoidable impacts. Odors are manageable with a variety of structures and activities. The University of Minnesota-Extension has published information on several ways to manage odors.

The nearest resident in the direction of the prevailing winds, is located approximately three-quarters a mile northwest of the storage facility. It is anticipated that odors from the storage might be objectionable during times of manure agitation in preparation for landspreading activities. Landspreading is anticipated to occur twice annually. All reasonable precautions will be taken to minimize the extent and duration of the odors.

The operation has proposed ways to minimize this impact by:

- Reducing the frequency with which landspreading occurs
- Emptying the facilities when humidity, ambient temperature and winds are such that odor is minimized
- Laying out manure storage facilities to take advantage of predominant breezes to keep odor away from housing areas
- Maintaining a crust on the manure storage facility
- Utilizing digester technology to capture and burn odor generating gasses to produce electricity and heat simultaneously
- Incorporate solids separation, to enhance odor reduction

Some other long term physical impact are fugitive dust emissions from increased truck traffic, and increased particulate matter emissions from grain and feed handling, grain drying, grain storage, feed milling, and manure handling. Fugitive dust emissions would be subject to emission limitations under s. NR 415.04, Wis. Adm. Code, and would require the operation to suppress fugitive dust wherever practical. The Department has the authority to require a fugitive dust plan if complaints about dust problems arise.

Other particulate matter emissions are regulated by s. NR 415.05, Wis. Adm. Code. This operation is required to meet the allowable emission limitation contained in the code and may also need to impose additional restrictions to ensure that the ambient air quality standards are met.

An increase in hazardous air pollution emissions will also occur from this expansion project. The pollutants of concern are ammonia and hydrogen sulfide. Chapter NR 445, Wis. Adm. Code, contains emission limitations for hazardous air pollutants designed to protect public health and the environment. Though this operation is exempt from these emission limitations, it will still be required to show compliance with the acceptable ambient concentrations for each hazardous air pollutant that it emits.

Water usage at the operation is estimated at 105 gallons of water per minute. Groundwater levels in the area could be affected by water usage at the operation; however, the WPDES permit does not regulate this. If the operation's water usage from wells on site is 70 gallons per minute or greater, the operation is required to obtain a high capacity well approval and water impacts to the water table would be evaluated. If 70 gallons per minute is used only during the construction process, a temporary dewatering approval is required.

There is a private sewage system designed at the site for all the human waste, office and employee water usage.

Biological

After a review of area maps, no endangered and threatened species were found in the area of the operation.

The immediate farm area, former cropland, would be expected to provide habitat for common animal species acclimated to farm operations.

Provided manure landspreading is limited to existing croplands and application practices avoid increased nutrient loading to surface waters (see later discussion in this section), no serious threat to sensitive resources in the vicinity would be expected. Therefore, long-term significant impacts on terrestrial animals and vegetation are not expected.

No waterways or aquatic resources will be re-routed or altered as a result of this project. Water usage associated with cattle drinking and cleaning operations is expected to average 105 gallons per minute. A high capacity well is required for this site. Groundwater is estimated to be 30 to 35 feet below ground level at the site, except for some localized perched water conditions in the area.

The distance to the closest navigable water is 3200 feet. The Oconto River flows adjacent to some of the potential land application sites. Linzy Creek runs nearby. The operation will discharge to the groundwater of the Upper Green Bay Basin, the Lower Oconto River Watershed. Short-term impacts on area surface waters or wetland resources are not expected during construction of the operation if BMP's are implemented and maintained for storm water runoff control.

The most significant possible long-term biological impact is associated with the production of manure at the site. It is anticipated that approximately 10 million gallons of liquid waste consisting primarily of manure will need to be stored and disposed of every year. Nutrients associated with manure can have detrimental impacts on groundwater (nitrogen) and surface waters (nitrogen and phosphorus) if not properly land applied. Biochemical oxygen demand associated with manure can reduce dissolved oxygen levels in surface waters. In addition, ammonia in the manure can be toxic to fish and aquatic life.

Since the cattle will be held in buildings where they are totally confined and manure from these buildings will be transferred to a storage facility, long-term nutrient impacts on wetlands and surface waters from the cattle housing area are not expected. The manure storage facility itself will need to meet appropriate USDA-Natural Resources Conservation Service (NRCS) design standards to ensure that groundwater impacts do not occur.

The land application of manure on area cropland poses the greatest risk of environmental impact if it is not done properly. Impacts from nutrient loadings, biochemical oxygen demand and ammonia are water quality concerns with surface waters. Since this operation will require coverage under a WPDES permit due to its size, landspreading of its manure is regulated in accordance with a Department approved Manure Management Plan. The Manure Management Plan can be an effective tool to proactively address possible problems that would otherwise be associated with poor manure landspreading activities. Following conditions in the Manure Management Plan for setback distances, appropriate application rates, timing and record keeping should result in direct benefits to the environment.

The draft permit includes injection and incorporation requirements based on proximity to surface waters which are intended to ensure that manure does not runoff to surface waters and cause short-term impacts associated with biochemical oxygen demand and ammonia. See the draft WPDES permit for these specific restrictions.

Manure application rates will be based on the nitrogen needs of the crop. Since crops utilize more nitrogen than phosphorus, if manure is applied to the nitrogen needs of the crop on a regular basis, phosphorus soil levels will become elevated over time. While the best management practices required by the proposed WPDES permit will be a long way toward minimizing excessive phosphorus delivery to nearby surface waters, soluble phosphorus and phosphorus attached to soil particulates is likely to reach nearby surface water. However, department requirements to address phosphorus delivery to surface waters are typically limited to areas where impact to impaired and outstanding and exceptional resource waters are a concern. Since the operation's landspreading activities will be occurring in the Oconto River Watershed and are not expected to impact impaired, outstanding or exceptional resource waters, the Department will not require the operation to submit phosphorus based Manure Management Plan.

Once approved by the Department, all landspreading activity must be completed in accordance with the management plans. A certified crop consultant must develop the plans.

Landspreading manure in accordance with an acceptable Manure Management Plan is advantageous to both the farmer and the environment. The nitrogen and phosphorus from the manure provide nutrients for crop growth and lowers the need for commercial

fertilizer. In many instances, the net nutrient application will not change, only the type of fertilizer. When manure is spread in suitable amounts and promptly tilled into the soil, the potential of runoff causing off-site problems is minimized. The proposed WPDES permit will regulate the application rates, applied acreage, spreading techniques and other specifications through the Manure Management Plan. The operation will also be required to conduct manure and soil sampling to determine appropriate application rates, depending on soil and crop types.

The manure will be injected into the ground to reduce the potential of runoff and odors associated with the spreading of manure.

If the operation conducts landspreading in accordance with an approved Manure Management Plan, maintains an adequate land base for landspreading, and properly inspects and maintains manure storage facilities and runoff control systems, the threat to groundwater and surface water should be minimal under normal operating and climatic conditions.

Cultural

Per a March 1, 2000 contact with Dr. Victoria Dirst, Department Archeologist, there are no known archeological or historical resources that will be impacted by the operation.

The site will not be significantly changed in terms of type of land use as a result of the proposed operation. The site is zoned for agriculture, which is the predominant land use in the area, and will not need to be changed as a result of this project. However, there may be adverse indirect impacts associated with the proposed operation, primarily related to non-agricultural uses of lands in the area. There may be decreases in land values associated with residential uses within areas zoned as agricultural due to concerns, real or perceived, associated with the operation, such as increased traffic, odors, etc. It is difficult to assess the extent or existence of such impacts and these impacts are beyond the regulatory authority of the Department. Although there may be permit conditions affecting the management of the operation, these may be beneficial to the current land use.

The proposed operation will also have indirect effects. The area's economy will change through jobs associated with the operation and an increase in the area's tax base. It is anticipated that the operation will employ about 30 local residents. It is also estimated that \$10,300,000 will enter the local economy as a result of added employment opportunities and business such as the operation's purchase of feed from local farmers, once the operation is fully developed.

2. Significance of Cumulative Effects

Discuss the significance of reasonably anticipated cumulative effects on the environment (and energy usage, if applicable). Consider cumulative effects from repeated projects of the same type. Would the cumulative effects be more severe or substantially change the quality of the environment? Include other activities planned or proposed in the area that would compound effects on the environment.

There is a trend in the livestock industry towards larger-scale facilities of this kind. Large-scale operations have rapidly become an economic necessity due to changing pricing structures and the need to reduce capital inputs while maximizing production. Economies of scale associated with CAFOs have allowed producers to increase production without increasing costs. If numerous projects of this type are proposed in this area there is a concern that the land base available for landspreading manure could be overwhelmed and would make a number of such projects nonviable, primarily with respect to costs associated with hauling manure long distances for landspreading. The Department is not aware of additional projects of this type in such vicinity that the availability of land for manure application would be inadequate.

Any future projects will be examined at the appropriate time. With each new operation or expansion proposed, cumulative effects such as impacts from manure landspreading activities are considered. Unless these facilities are poorly sited or concentrated in a small area, the cumulative impacts to the environment should not be significant.

3. Significance of Risk

3a. Explain the significance of any unknowns, which create substantial uncertainty in predicting effects on the quality of the environment. What additional studies or analysis would eliminate or reduce these unknowns?

The operation's existing manure storage facilities and runoff control systems will be evaluated either prior to issuance of the proposed

permit or as part of the permit schedule to determine if they have been built in accordance with currently accepted standards. If the facilities fail to meet current standards, the operator will be required to upgrade the facilities to meet current standard in accordance with a schedule in their proposed WPDES permit.

Ensuring the manure storage facilities and runoff control systems meet currently accepted standards is intended to address possible adverse impacts to ground and surface waters. Once the proposed permit is issued, the operation will be required to obtain Department approval of all proposed new manure storage and runoff control facilities prior to construction to ensure that the facilities meet current standards.

The operation must comply with its WPDES permit and associated Manure Management Plan. Consequently, the landspreading of manure should not yield any substantial increase in risk to the environment. The Manure Management Plan will include acres that may not have previously been managed in accordance with a nutrient management plan, which could mean environmental benefits compared to existing manure application practices.

The nutrient content of manure temporarily stored in the storage facility may vary. Unidentified variations in nutrient content may result in over-application of nutrients (nitrogen in particular) that could impact groundwater. The WPDES permit issued to this operation will require manure and soil testing to ensure this does not occur.

These factors are sufficient to indicate that the risk of environmental harm is not significant.

3b. Explain the environmental significance of reasonably anticipated operating problems such as malfunctions, spills, fires or other hazards (particularly those relating to health or safety). Consider reasonable detection and emergency response, and discuss the potential for these hazards.

Possible operating problems that could impact the environment include failure of manure handling and storage facilities or poor manure land application practices that lead to nutrient runoff to surface waters or leaching of nutrients to groundwater.

The Department will review of any proposed manure storage facilities or evaluate existing manure storage facilities to ensure that they are appropriately designed (for example, berm slopes and storage volume) makes the probability of failure of storage facilities highly unlikely. In addition, the operation will need to address small-scale manure spills as part of their operation and maintenance plan for the operation (as part of the review process of manure storage facilities or as part of the proposed WPDES permit). This plan typically addresses spills associated with general operation and maintenance of the operation. These small "spills" may not represent an immediate environmental impact but may need to be addressed by the operation (e.g., scraping areas where small amounts of "spilled" manure have collected, changing operating procedures to avoid small "spills") to ensure that impacts to waters of the state, primarily through runoff resulting from storm events, do not occur. Massive failure of the manure storage facility would likely be formally defined as a spill under Ch. NR 706, Wis. Admin. Code. Chapter NR 706 describes requirements for immediate notification of the Department in the case of a spill. A requirement to follow Ch. NR 706 is included in the proposed WPDES permit. Inappropriate or inadequate responses (i.e., time frame of response and action taken to eliminate or mitigate environmental impact) to spills and associated environmental impact are subject to Department enforcement. However, Department and permittee action is contingent on a case-by-case evaluation of actual environmental impact and correction actions taken by the operation.

Department inspections based on complaints or general compliance efforts will help to serve to evaluate whether the operation is properly addressing minor "spills." In addition, the operation will be required to conduct inspections of storage facilities to ensure that more significant problems are addressed prior to any sort of massive facility failure.

Proposed fencing around storage facilities will minimize the risk of people or animals falling into the pond.

Manure will be landspread in accordance with a Department approved Manure Management Plan, which will does not allow poor land application practices; thus, operating practices should have minimal impacts on the environment.

4. Significance of Precedent

Would a decision on this proposal influence future decisions or foreclose options that may additionally affect the quality of the environment? Describe any conflicts the proposal has with plans or policy of local, state or federal agencies. Explain the significance of each.

No. All future projects will be evaluated by their own specific adverse and beneficial impacts. There are other similarly sized operations in Wisconsin. Each individual project is considered separately based on its own merits.

The Department primarily considered issues that fall under our regulatory authority as part of this assessment. The project is not known to conflict with plans or policy of local, state, or federal agencies. The operation will need to apply for and receive the appropriate approvals from all involved agencies prior to operating. Permitting this operation would not foreclose future options for taking necessary actions to protect the environment (i.e., revocation, modification of the permit). In actuality, through enforcement of the WPDES permit, the Department has a means to avoid or address possible environmental impacts associated with the operation.

5. Significance of Controversy Over Environmental Effects

Discuss the effects on the quality of the environment, including socio-economic effects, that are (or are likely to be) highly controversial, and summarize the controversy.

There is the possibility that public controversy may be generated as a result of the permitting of this operation. State and area citizens may express concerns about the environment such as possible air and water quantity/quality issues. The Department has some authority to address odor complaints should they arise. The Department is starting a process to study and address odor and air toxics issues from livestock operations on a statewide basis. This study is expected to develop standards and voluntary best management practices to reduce or minimize potential problems from CAFOs. Water quantity issues are addressed to a certain extent if the operation is required to obtain a high capacity well approval. However, neither of these issues is addressed by the issuance of the proposed WPDES permit, which is strictly intended to address the water quality concerns.

There may also be socio-economic concerns such as animal treatment issues, the trend towards large-scale farming in the state, impacts larger-scale farming may have on the viability of smaller operations and concerns of smaller operations and non-farming rural inhabitants regarding changes in the agricultural landscape associated with CAFOs. The socio-economic issues are difficult to quantify and there is significant disagreement as to the validity of these concerns. These socio-economic issues are beyond the scope of the proposed WPDES permit and the Department's overall regulatory authority. At this point, these issues can be addressed through local zoning and through implementation of comprehensive land use planning by the local unit of government.

ALTERNATIVES

Briefly describe the impacts of no action and of alternatives that would decrease or eliminate adverse environmental effects. (Refer to any appropriate alternatives from the applicant or anyone else.)

EVALUATION OF EXISTING FACILITIES

The Department's alternatives when reviewing existing runoff control and/or manure storage facilities either as part of processing a permit or the permit itself are:

- Determine that the facilities meet current standards and require no further action on behalf of the operation.
- Determine that the facilities do not meet current standards and allow the operation the option of abandoning the structure, upgrading the facility, replacing the structure or require long term groundwater monitoring around the structure (with possible future upgrades depending on the results of the monitoring)

The selected alternative will be based on the information collected as part of this environmental assessment and further Department review.

WPDES PERMIT

Within the constraints of the Department's existing permitting authority for CAFOs, the Department has limited alternatives to the issuance of a WPDES permit for the operation. Based on the information available to the Department, the Department cannot justify denial of the proposed WPDES permit for the operation since it is expected that the operation will be able to comply with the conditions of the proposed permit and not cause an exceedance of water quality standards. The Department could require more stringent conditions in the permit if it determined the conditions were necessary to protect water quality. The Department will use the information collected as part of the environmental assessment as well as part of the public comment period associated with the issuance process of a WPDES permit to make its final determination on issuance of the permit and to determine if additional restrictions in the proposed permit are necessary.

SUMMARY OF ISSUE IDENTIFICATION ACTIVITIES

List agencies, citizen groups and individuals contacted regarding the project (include DNR personnel and title) and summarize public contacts, completed or proposed.

(Fill in all that apply)

- Owner/Operator, Robert Zahn
- Regional DNR contact, Dave Bougie
- Central office DNR contact, Doris Thiele
- Farm Credit Services, Steve Gostisha
- Oconto County Land Conservation Department
- Crop Consultant, Eric Anderson

The proposed WPDES permit for the operation will be public noticed for comments as part of the permit issuance process. If necessary, an informational hearing may be held on the proposed WPDES permit to receive additional comments.

DECISION (This decision is not final until certified by the appropriate authority)

In accordance with s. 1.11, Stats., and Ch. NR 150, Adm. Code, the Department is authorized and required to determine whether it has complied with s. 1.11, Stats., and Ch. NR 150, Wis. Adm. Code.

Complete either A or B below:

A. EIS Process Not Required X

The attached analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action which would significantly affect the quality of the human environment. In my opinion, therefore, an environmental impact statement is not required prior to final action by the Department on this project.

B. Major Action Requiring the Full EIS Process _____

The proposal is of such magnitude and complexity with such considerable and important impacts on the quality of the human environment that it constitutes a major action significantly affecting the quality of the human environment.

Signature of Evaluator <i>Louis K. Shultz</i>	Date Signed <i>04-04-01</i>
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Number of responses to news release or other notice: *2 oral*

CERTIFIED TO BE IN COMPLIANCE WITH WEPA	
Regional Director or Director of BISS (or designee) <i>Tom O'Paul</i>	Date Signed <i>4/4/2001</i>

NOTICE OF APPEAL RIGHTS

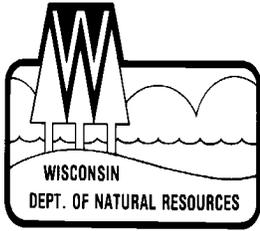
If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.

Note: Not all Department decisions respecting environmental impact, such as those involving solid waste or hazardous waste facilities under sections 144.43 to 144.47 and 144.60 to 144.74, Stats., are subject to the contested case hearing provisions of section 227.42, Stats. This notice is provided pursuant to section 227.48(2), Stats.

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NEWS RELEASE
Wisconsin Department of Natural Resources
P.O. Box 7921, Madison, WI 53707-7921
Phone: 608-266-3906

FOR RELEASE: March 19, 2001

CONTACT: Doris Thiele 608-266-3906, or David Bougie 920-448-5130

SUBJECT: EA and WPDES permit for Zahn Farms, Oconto County

MADISON, Wis. – The Department of Natural Resources (DNR) has prepared an environmental assessment associated with Wisconsin Pollutant Discharge Elimination System (WPDES) permitting and approval for a proposed dairy operation named Zahn's Farms in Gillet Township, Oconto County.

Zahn's Farms plans to maintain at least 800 head of cattle. Approximately four million gallons of manure and wastewaters will be generated on an annual basis. At the present time, Zahn's Farms has over 1,600 acres available to receive the manure and wastewater on an annual basis.

Since the cattle will be held in buildings where they are totally confined and manure from these buildings will be transferred to a storage facility, long-term nutrient impacts on wetlands and surface waters from the cattle housing area are not expected. The manure storage facility itself will need to meet appropriate USDA-Natural Resources Conservation Service (NRCS) design standards to ensure that groundwater impacts do not occur.

The proposed permit is not anticipated to result in significant environmental effects. The DNR has made a preliminary decision that an environmental impact statement will not be required for this action. Copies of the environmental assessment that led to the DNR's preliminary determination can be obtained from either Doris Thiele, Wisconsin DNR, PO Box 7921, Madison WI 53707, 608-266-3906, or David Bougie, 801 E Walnut St. Green Bay, WI 54301, 920-448-5130.

Public comments, either written or oral, on the environmental assessment are welcome and must be submitted to Doris Thiele or David Bougie no later than 4:30 p.m. March 30, 2001.

Briefing Memo
Zahn's Farms, LLC
WPDES Number WI-0061506-01
January 15, 2001

Zahn's Farms, LLC
Robert Zahn

Mailing address: 6661 Mueller Hill Road, Gillet, WI 54124

Location: SWQ Section 8, T28N, R18E, Gillet Township, Oconto County
Lower Oconto River Watershed, Upper Green Bay Basin

Operation Overview: Zahn's Farms is a proposed dairy expansion to be completed and populated over the next several years. The farm is located at one central location, but with two distinct sites: the Dairy Center and the Home Farm. The two sites are contiguous, with the Dairy Center located on the east side of the Home Farm. Mueller Hill Road borders the south of both sites. The Dairy Center was constructed in 1999 and 2000, and consists of the milking parlor, a freestall barn and an earthen-lined manure storage facility. There are no outdoor loafing areas at the Dairy Center, nor are any planned. The Home Farm currently houses the milking cows, and other cattle. These cows will all be housed at the Dairy Center once construction is complete. Then the Home Farm will house heifers. An earthen-lined manure storage facility was built in 1990 and will hold all the manure generated by the heifers. There are five outdoor lots utilized by the cows and heifers. A feed storage system is planned for the storage of corn silage and haylage. Zahn's Farms plans to maintain at least 800 head of cattle or 1100 animal units by February 1, 2001. Since the operation will house more than 1,000 animal units, a Wisconsin Pollutant Discharge Elimination System (WPDES) permit is required. Per NR 243, Wis. Adm. Code, a WPDES permit is needed for all livestock operations that house more than 1,000 animal units. With 800 head of dairy cattle, approximately four million gallons of manure and wastewaters will be generated on an annual basis. At the present time, Zahn's Farms has over 1,600 acres available to receive the manure and wastewater on an annual basis.

Expansion Overview: A manure treatment system is planned for construction and operation by December 2001. At this time, this treatment system is expected to be a methane digester. Additional expansion plans include the construction of another new freestall barn and fill it to capacity by the end of 2002. By the end of 2004, Zahn's Farms plans to have a third freestall barn built and filled to capacity. Total cattle numbers at the end of 2004 are expected to be approximately 2200 milking cows, with 330 dry cows and over 2,000 heifers at various weights, or approximately 3600 animal units. There are no additional manure storage facilities planned for construction.

Manure Management: With over 3600 animal units, it is estimated that over ten million gallons and seven thousand tons of manure will be produced on an annual basis. Zahn's Farm owns approximately 460 acres of cropland and rents about another 1140 acres. Initial review of the management plan indicates that all manure will be incorporated and no winter landspreading will occur. Currently, it is anticipated manure will be removed from the storage facilities once per year. As expansion plans proceed, landspreading of manure may need to occur more frequently

to maintain adequate freeboard on the storages. The operation of the methane digester should have little effect on the amount of manure that will need to be temporarily stored.

Cattle Lot Runoff Controls: There are no outdoor cattle lots or loafing areas proposed at the Dairy Center. However, there currently are five outdoor lots utilized at the Home Farm. The future of the lots is somewhat questionable. Until the Dairy Center is complete and all milking and dry cows are moved to the freestall barns, some of these lots will be used. Although the permit does not require specific sampling, all lots have been assigned a "sampling point number". Sampling Point 001 refers to a heifer lot. Currently all runoff is directed to the manure storage facility. Sampling Point 002 refers to a small lot located adjacent to an open housing area. A full evaluation is required. Sampling Points 003, 004 and 005 refer to pasture areas, beginning with at the north and moving south towards the road. Sampling Points 003 and 004 are consistently kept in grass cover. Sampling Point 005 will be retired within the next year, and returned to cropland.

Feed Storage and Runoff Controls: At the present time, feed is generally stored in large plastic bags or in upright silos. There is a feed storage system planned at the Dairy Center. The components have not been finalized. The proposal must gain Department approval prior to construction. The existing system must be evaluated. The proper storage of feed and any resulting leachate is addressed in the permit. No leachate may enter surface waters.

Manure Storage: The permit recognizes that not all landspread manure will be temporarily stored in one of the existing facilities. Sampling Point 006 will be used to track the land application of any manure that is not temporarily stored. Examples of this type of manure include maternity pen manure or dry heifer manure. At the Home Farm, the earthen-lined manure storage facility was constructed in 1990. This storage holds all the manure generated, as well as runoff from one open lot (Sampling Point 001). It has an estimated capacity of 235,300 cubic feet. Top dimension of the storage is 100 feet wide by 175 feet long. This storage is referenced as Sampling Point 007 in the permit. At the Dairy Center, Zahn's Farms will house all milking and dry cows in one of the three-freestall barns. Manure generated will be mechanically scraped and then directed to the proposed methane digester. Wastewaters from the parlor and associated holding area will also be directed to the digester. From the digester, the manure will be directed to the earthen lined manure storage facility constructed in 2000. In the permit, Sampling Point 008 has been assigned to the 7.5-million gallon storage. At this time, Zahn's Farms is awaiting Department review and approval of as-built documentation for the earthen-lined storage facilities.

Manure Monitoring Requirements: The permit will require sampling and analysis of manure that will be landspread. Sampling Point 006 has been assigned to manure that is not mixed with the liquid manure stored in the earthen facilities. This manure must be sampled on a quarterly basis and analyzed for total nitrogen, available nitrogen, total phosphorus and total solids. Zahn's Farms will also be required to take two representative samples of liquid manure each month when discharging from each of the storages temporarily holding manure and washwaters: Sampling Points 007 and 008. Samples must be taken after agitation, and cannot be taken less than 24 hours apart. These samples must be analyzed for total nitrogen, available nitrogen, total phosphorus and total solids. Landspreading rates must be adjusted based on sample analysis. There are no sampling requirements for any feed storage areas.

Industrial Waste Monitoring Requirements: The permit will require sampling and analysis of digester effluent that will be landspread. Sampling Point 009 has been assigned to any manure

mixture that is considered to be industrial waste. This waste may be stored in the earthen facilities. When discharging, two samples of the waste must be taken on a monthly basis and analyzed for total nitrogen, available nitrogen, total phosphorus, chloride, and total solids. Landspreading rates must be adjusted based on sample analysis. (See below for additional discussion on the methane digester effluent requirements.)

Daily Log and Annual Reporting: The permit requires Zahn's Farms to maintain a daily log that documents spreading activity (both manure and industrial wastes). Fields used, the number of acres applied, identification of the waste and the resulting nitrogen and phosphorus application rates must be documented for every day spreading activity takes place. Originals of the log sheets must be kept by the permittee for the term of the permit, and if requested, made available to the Department. The permit also requires Zahn's Farms to submit an annual report by January 31 of each year. The annual report must summarize all landspreading activity and include the lab analysis of the manure and digester effluent landspread. The permittee is required to submit field by field information summarizing the total manure applied, resulting amount of nutrients applied and estimated nutrient uptake of the cover crop.

Permit Schedule Manure Management Plan: A preliminary plan has been submitted. Manure application rates are dependent on the nitrogen needs of the cover crop. This plan may need to be amended to meet the conditions of the permit. The first amendment is due by June 30, 2001. Due to the uncertainty of the exact time frames associated with the additional expansion and population plans, additional amendments are due by January 1 of each subsequent year. All amendments shall account for the total amount of manure and digester effluent to be land applied. Once approved by the Department, all landspreading activity must be completed in accordance with the management plans. A certified crop consultant must develop the plans. Plans must be updated annually to reflect cropping plans. Among the requirements, the plans must include aerial photographs, plan maps and soil maps clearly identifying the proposed landspreading sites. In addition, detailed landspreading information including a field by field nutrient budget must be detailed. Incorporation requirements have been included in those instances when spreading will occur near water bodies. Winter spreading of manure is allowed but with site constrictions. No runoff of manure or ponding in fields is allowed at any time.

Permit Schedule Digester Effluent Characterization At the present time, Zahn's Farms intends to use the methane digester solely for the digestion of manure. Under this scenario, the resulting effluent will be regulated under Ch. NR 243, Wis. Adm. Code. The permit clearly describes the requirements for manure that is land applied. However, Zahn's Farms will continue to investigate additives to the methane digester to improve its efficiency. These additives may significantly change the resulting effluent, such that the effluent becomes an industrial waste. The Department has the authority to regulate the disposal of industrial wastes under Ch. NR 214, Wis. Adm. Code. Requirements of Ch. NR 214 have been added to the draft permit to allow the land application of digester effluent under certain circumstances. The permit contains a three step process the permittee must follow to receive approval to land apply any digester effluent that contains an additive in addition to manure. The first step is to provide the Department a chemical characterization of the additive and an estimation of the amount of additive to be used. This description is due to the Department at least 90 days prior to use of the additive. Sixty days prior to the introduction of an additive, the permittee must submit a preliminary management plan that request approval under Ch. NR 243 or Ch. NR 214 for the land application of the resulting effluent, and the basis of the request. Thirty days prior to the use of the additive, the management plan must be amended to fully incorporate the appropriate permit conditions.

Written approval from the Department is required prior to any landspreading of the resulting effluent. Zahn's Farms will be required to follow the three-step process for each unique additive it wishes to use in the methane digester.

Permit Schedule Runoff Controls- Engineering Evaluation –Outdoor Lot 002 A full evaluation of the existing outdoor lot at the Home Farm is required by the permit. A written description is due by March 31, 2002. If any improvements are needed, complete plans and specification are required by March 31, 2003, with completed installation due by December 31, 2004. These dates were chosen to allow the permittee ample time to move all the dry cows to the Dairy Center. The lot must adequately control all runoff from a 25-year, 24-hour storm event. If the permittee submits the documentation during the public notice period of the permit, this requirement will be dropped from the proposed permit.

Permit Schedule Runoff Controls- Engineering Evaluation –Outdoor Lots 003, 004 and 005 The three pastures at the Home Farm are subject to a full evaluation if modified from their current operation. If the number of cattle at each site is increased, or if sufficient grass cover is not maintained, the permittee is required to complete a full evaluation of the existing outdoor lots. Again, it is expected that Lot 005 will be retired at the end of 2001. Rather than pose hard dates in the permit, the permit requires a written description of any proposed changes nine months prior to completion. If any improvements are needed, complete plans and specification are required six months prior to modification. All lots must adequately control all runoff from a 25-year, 24-hour storm event. If the permittee submits the documentation during the public notice period of the permit, this requirement will be dropped from the proposed permit.

Permit Schedule Runoff Controls- Engineering Evaluation – Feed Storage Areas The permit includes a permit schedule for the feed storage areas. The first requirement is to submit a written description of the feed storage areas must be submitted by March 31, 2001. The description shall include any written operation and maintenance plans. If any upgrading or modification to the storm water and/or leachate runoff controls is necessary, plans and specifications must be submitted by June 30, 2001. The permittee is required to correct any adverse runoff conditions by June 30, 2002. The permit also requires the submittal of plans and specifications for any new construction at least 120 days prior to construction. Prior written approval from the Department is required for any new construction. If the permittee submits the documentation during the public notice period of the permit, this requirement will be dropped from the proposed permit.

Permit Schedule Manure Storage- Engineering Evaluation: The permittee is required to submit as-built documentation for the manure storage facility at the Home Farm. The first step, retaining and expert to gather the documentation and to complete any needed evaluations are due September 30, 2001. A written report is due March 31, 2002. The Department is confident all documentation is available at the local land conservation office, and that the storage was constructed to meet current standards, however, if the documentation shows additional corrections to the storage is warranted, plans and specifications must be submitted to the Department by September 30, 2002. All adverse conditions must be corrected by December 31, 2003. If the permittee submits the documentation during the public notice period of the permit, this requirement will be dropped from the proposed permit.

Permit Schedule Manure/Industrial Waste Treatment System – Installation: The construction of the proposed methane digester must gain Department review and approval prior to installation. The permit requires the submittal of plans and specifications at least 150 days prior to construction. The Department will review the plans under the constraints of Chapter NR 213, Wis. Adm. Code, and USDA Standard 313 to ensure the digester can be used for industrial wastes or manure.

Permit Term: This will be the first issuance of a WPDES permit for Zahn's Farms. Permits are normally issued for up to five years. The proposed effective date is March 10, 2001 and the proposed expiration date is December 31, 2005.

Submitted by

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Bureau of Watershed Management