

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 7, 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: Kenn Buelow

Mailing Address: N2547 CTH T New Holstein, WI 53061

Title of Proposal: _Wholesome Dairy _WPDES PERMIT APPLICATION

Location: Calumet County, Town of Rantoul, Township: 19N Range: 20E Section(s): 19 and 30

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 Wholesome Dairy. 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.

Wholesome Dairy is a proposed new dairy to be built and populated over the next six months. The proposal includes a milking parlor and three freestall barns. There will also be a manure digester, a manure separator, a solid-manure stacking pad and two earthen-lined manure storage facilities. There will be no outdoor loafing areas. An asphalt-lined feed storage pad is planned for the storage of corn silage and haylage. Wholesome Dairy plans to maintain at least 3,300 head of cattle or 4,620 animal units. With 3,300 head of dairy cattle, approximately 34.5 million gallons of manure and wastewaters will be generated on an annual basis. Wholesome Dairy has over 3,300 acres available to receive the manure and wastewater on an annual basis. Wholesome Dairy has no additional expansion plans at this time.

Wholesome Dairy will house all cattle in one of the three-freestall barns. Manure generated will be mechanically scraped and then directed to one of two methane digesters proposed. Wastewaters from the parlor and associated holding area will also be directed to one of the digesters. The size of the digesters is estimated at 235' long by 32' wide by 16' deep (each) and will be constructed of reinforced concrete. The methane recovered will be used for electrical generation. After the manure is process through the digesters, it will be mechanically separated. The separated solid manure will be stored on a 100' by 100' concrete stacking pad (Sampling Point 005). The proposed pad is be used during the summer months. Separated solid manure may also be stored on the feed storage pad during the winter months. The separate solid manure will be used as bedding in the freestall barns. Liquid manure will be directed to the first storage facility (Sampling Point 002). This facility will act as a primary settling pond and the overflow will be directed to the second manure storage facility (Sampling Point 003). Both storage facilities will be earthen lined and have a capacity of 22 million

gallons. The approximate dimensions of each facility are 300' wide by 800' long by 17 feet deep. Eventually, all liquid manure will be land applied. Wholesome Dairy may utilize spray irrigation during the summer months, and more traditional land application techniques in the autumn months. At this time, Wholesome Dairy is awaiting Department review and approval for the construction of the methane digesters, the concrete stacking pad and the earthen-lined storage facilities.

The project cost for this construction is estimated at \$12,400,000

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 Kenn Buelow.
- Plans and specifications for proposed manure storage facility completed Tiry Engineering
- Preliminary Manure Management Plan prepared by Jeff Polenske
- Post-construction documentation for manure storage facilities/runoff control systems submitted by Tiry Engineering
- 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 175,000 cubic yards of land will be disturbed over a period of nine months 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. Since the project will result in the disturbance of five or more acres, the operation must obtain coverage under the storm water construction site general permit (WI-0067831-1), which requires the operation to implement Best Management Practices (BMP's) to address impacts from storm water runoff. These protections will minimize surface water impacts resulting from construction site erosion to the most practical extent. The operation has obtained coverage under this permit.

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 pit 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

Per a December 19, 2000 contact with Elizabeth Spencer, 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. Surface water flows in an unnamed stream approximately 3200 feet North of the site. The operation discharges the groundwater of the Michigan Lake Shore Basin, the North Branch of the Manitowoc River. This watershed discharges to an impaired waterbody and it is therefore recommended that the operation employ a Phosphorous based nutrient management plan. 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 35 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 attached draft WPDES permit for these specific restrictions.

Nutrient loadings to the North Branch of the Manitowoc River are a significant water quality concern. The North Branch of the Manitowoc River is on a list of waterbodies (referred to as the 303(d) list) that are impaired. By having an impaired status, the North Branch of the Manitowoc River is not meeting its intended use, primarily due to excessive nutrient loadings to the waterbody. Landspreading activities, from the operation, will be occurring on fields that drain to the North Branch of the Manitowoc River. These landspreading activities will need to be modified to minimize the potential for additional nutrients to enter the North Branch of the Manitowoc River. Increased setbacks, immediate or near immediate incorporation within a specified distance from the river or

reduced application rates are some of the management options that can be used to address this concern.

Usually manure application rates are 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. In order to protect against increased phosphorus loadings to area surface waters, the proposed WPDES permit would require that the operation's Manure Management Plan address phosphorus loadings from fields where the operation landspreads manure. While phosphorus is a critical component of ensuring healthy crop growth, excessive phosphorus that is applied on land can make its way to surface waters where it contributes to excessive algal growth. Excessive algal growth contributes to such problems as low dissolved oxygen in surface waters, a problem that is occurring in the surface water listed above. The permittee will need to implement field and site specific restrictions and practices as part of their Manure Management Plan submitted to the Department for review and approval. These restriction and practices will need to take into account existing soil nutrient levels, buffers, crop rotations, and other relevant factors. Specific restrictions will also be placed in the proposed WPDES permit for the operation that are designed to address phosphorus impacts associated with the operation's landspread manure.

See the attached draft WPDES permit for these specific restrictions.

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 December 18, 2000 contact with Dr. Victoria Dirst, Department Archeologist, there is a concern regarding an archeological site. The site in question is a brick one story cube farmhouse located on the west side of Irish Road. The indication of an archeological find is not significant in this case because the operation does not plan to demolish the house in question.

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?

Proposed manure storage and runoff control facilities at the operation will be built in accordance with currently accepted standards to minimize the risks of ground and surface water contamination. Plans and specifications for proposed facilities must be reviewed and approved by Department staff prior to construction. It is anticipated that all construction will be completed by June 2001.

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 evaluation of 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.)

REVIEW OF NEW FACILITIES

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

- Deny the plans and specifications for the design of the proposed facilities based on water quality concerns and require resubmittal of plans and specifications.
- Approve the plans and specifications for the design of the proposed facilities without conditions.
- Approve the plans and specifications for the design of the proposed facilities, but with conditions requiring additional components to the facilities' design or operation based on water quality concerns.

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)

- Consulting Firm, Tiry Engineering
- Owner/Operator, Kenn Buelow
- Regional DNR contact, Dave Bougie
- Central office DNR contact, Doris Thiele
- Local unit of government, Town of Rantoul
- Calumet County Land Conservationist, Kurt Calkins
- Design Engineer, David McDaniel
- Crop Consultant, Jeff Polenske

The Department is currently reviewing plans and specifications for manure storage and runoff control facilities at the operation. 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 will 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>Doris K. Shultz</i>	Date Signed <i>03-28-01</i>
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Number of responses to news release or other notice: *13 written + oral*

CERTIFIED TO BE IN COMPLIANCE WITH WEPA	
Regional Director or Director of BISS (or designee) <i>Jim O'Paul</i>	Date Signed <i>3/28/2001</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.

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NOTICE OF FINAL DETERMINATION TO ISSUE A WISCONSIN POLLUTANT DISCHARGE
ELIMINATION SYSTEM (WPDES) PERMIT

Notice Issued On: March 31, 2001

Permit Number: WI-0061620-01-0

Name and Address of Permittee:	Name and Address of Operation Where Will Discharge Occur:
Kenn Beulow Wholesome Dairy N2547 CTH T New Holstein, WI 53061	Wholesome Dairy SEQ Section 19, T19N, R20E Irish Road, Rantoul Township, Calumet County

Permit Public Notice Date: February 1, 2001

Environmental Assessment Public Notice Closing Date: March 7, 2001

Public Informational Hearing Held On: March 7, 2001

Date of Effectiveness of the Permit: April 1, 2001

Date of Expiration of the Issued Permit: March 31, 2006

Department Determination: The Department has determined Wholesome Dairy will be issued Wisconsin Pollutant Discharge Elimination System (WPDES) permit No. WI-0061620-01-0. The permit application information from the WPDES permit file, comments received during the public notice period for the permit and the Environmental Assessment (EA), comments received at the public informational hearing, and Chapters NR 140, NR 200, NR 203, NR 205, NR 213, NR 214 and NR 243, Wis. Adm. Codes, were used as a basis for determining permit conditions. In addition, the Department has determined an Environmental Impact Statement will not be needed for the proposed WPDES permit, and no significant changes were made to the draft EA.

1. Permit and Environmental Assessment Comments and Concerns

Comments were received during the public notice period and public informational hearing held for the proposed issuance of WPDES Permit No. WI-0061620-01-0 to Wholesome Dairy. As many of the comments, concerns and questions received were related or repeated, this memo will be a comprehensive response to all comments received on the draft permit and draft EA. Those comments referring to water quality concerns and requiring a response from the Department are summarized and addressed in this section of the memo, and the succeeding section, "**Changes Made to the Public Noticed Permit**". Unfortunately, many of the concerns received from the public did not directly apply to the issuance of a livestock operational permit to Wholesome Dairy. These comments are also briefly summarized and addressed below.

- a. **Comment:** We are concerned with a general lack of monitoring and compliance conditions in the permit. How often will the Department inspect the operation? What kind of monitoring will Wholesome Dairy be subjected to, and will this be enough to adequately protect surface water and groundwater?

Department Response: The WPDES permit program is operated with a self-compliance-monitoring program. In general, permittees around the state are required to take samples of the wastes being discharged and report the test results to the Department. Many of the permit limitations focus on the quantity and quality of wastes being discharged. Likewise, Wholesome Dairy permit conditions required that at a minimum, two representative samples of the manure be analyzed on an annual basis for available nitrogen and total phosphorus, among other things. Based on the available nitrogen and total phosphorus content of the manure, the total amount of manure landspread on a given-cropped field is restricted. The total amount landspread on a given cropped field is determined using a series of factors including past cropping histories and future cropping plans. At no time, can Wholesome Dairy apply manure in amounts that exceed the nitrogen needs of cover crop; in other words, manure is applied to meet the agronomic needs of the cover crop. By including these restrictions, the permit language protects groundwater from negative impacts due to over applied manure (and nitrogen). Wholesome Dairy is required to submit the results of the manure testing, and summarize the landspreading activities on an annual basis. It is nearly impossible for the Department to physically oversee Wholesome Dairy spreading activity on a daily basis.

In addition, permit language requires Wholesome Dairy to establish a monitoring and inspection program for the following four aspects of the operation: manure storage facilities, composting systems, milking center wastewater treatment/disposal, and raw material storage. Under no circumstances is a discharge from these four areas allowed under normal weather conditions. All runoff expected up to a 25-year, 24-hour storm event must be contained (for Calumet County, 4.4 inches of rain can be expected from a 25-year, 24-hour storm event). Again, annual reports must be submitted to the Department. In case of a discharge, Wholesome Dairy is required to notify the Department within 24 hours.

The Department expects to inspect the Wholesome Dairy operation on an annual basis. In addition, staff will respond to complaints and requests from the operation.

- b. **Comment:** We understand there are provisions in the permit that address landspreading activities within the North Branch of the Manitowoc River Watershed. Why aren't these restrictions also applicable to neighboring watersheds, the Kilsnake River and South Branch of the Manitowoc Rivers, as these have been identified as being impaired?

Department Response: The permit requires Wholesome Dairy to develop a phosphorus limitation strategy for the landspreading sites within the North Branch of the Manitowoc River Watershed. This watershed is impaired, or not meeting its intended uses due to many factors including excessive nutrients. The other two waterbodies, the Kilsnake River and the South Branch of the Manitowoc River, have also been designated as being impaired, but due to the excessive amounts of PCBs, not nutrients.

- c. **Comment:** We are concerned with the groundwater quality in the area. Is groundwater monitoring required as part of the permit conditions? Once our water supply well is contaminated, it will be too late for Department actions.

Department Response: A direct benefit of the requirement for large-scale livestock operations to obtain a WPDES permit is that the permit process and the permit itself are intended to address possible impacts on groundwater as well as surface water. There are several permit conditions to prevent an exceedance of state drinking water standards (also known as groundwater standards). For example, as previously discussed, the permit limits the amount of manure applied on an annual basis to the nitrogen needs of the crop. Hence, no over-application of manure (based on nitrogen uptake) will protect groundwater quality. Annual Department review of Wholesome Dairy landspreading activities will help ensure that increased nitrates in the groundwater do not occur as a result of landspreading activities.

In addition, all manure storage facilities are required to meet the criteria found in USDA Natural Resource Conservation Service standards. These standards were developed by a group of professionals with the goal of preventing exceedences of the groundwater standards by limiting the potential of manure leakage. The design standards are intended to ensure that any cracks that do occur do not extend through the body of the floor or wall of the manure storage facility, thus avoiding leakage. The Department believes the permit adequately protects from discharges to groundwater.

The Department believes the groundwater aquifer in the area of Wholesome Dairy that supplies drinking water to area residences is approximately 50 feet deep. Given the geology of the area, the potential for groundwater and drinking water contamination from a properly designed and operated manure storage facility is low. The permit requires Wholesome Dairy to maintain all the manure storage facilities, and modifications are required if substandard conditions exist. In addition, the permit requires Wholesome Dairy to inspect the storages on a quarterly basis, and properly manage the storages to prevent overtopping.

- d. **Comment:** We are concerned with Wholesome Dairy land application program. How will the appropriate amount of manure to be applied be determined? How will compliance and monitoring be achieved?

Department Response: As mentioned in previous responses, overall, Wholesome Dairy is required to limit the amount of manure applied to the nitrogen needs of the cover crop. As a first step, Wholesome Dairy developed a Manure Management Plan that outlines their landspreading program. The first plan was received prior to public noticing the permit in October 2000. An amended plan was received prior to the issuance of the permit. These plans identify all of the proposed landspreading sites and applications rates based on technical guidance developed by the University of Wisconsin – Extension Service (UW-EX) and permit requirements. Application amounts, incorporation requirements, application timing and conservation methods are clearly identified for individual cropped fields. Wholesome Dairy is required by the permit to amend the plan to include provisions for a phosphorus strategy. Given that many of the landspreading sites are within the North Branch of the Manitowoc River Watershed, additional measures are needed to protect these surface waters. All management plans must receive Department approval. The Department has the authority to require modifications to limit applications on specific fields based on water quality protection needs.

- e. **Comment:** There is too much manure to be landspread on area lands. This will result in the manure being spread in too concentrated of a fashion. I believe the operation has inadequate landspreading acreage for their manure.

Department Response: As part of the WPDES permit, Wholesome Dairy is required to

submit and follow a Manure Management Plan. The Manure Management Plan requires that the operation has adequate land available for landspreading manure to ensure that adverse groundwater and surface water impacts do not occur. The operation may be able to use those lands closest to the operation as long as it is able to comply with the Manure Management Plan and avoid overloading fields such that groundwater and surface water impacts are avoided.

- f. **Comment:** We are concerned with the amount of water the operation needs to water the cattle, and operate the dairy. Will our water supply wells go dry? Who will be responsible for dry wells, or water shortages?

Department Response: The Department lacks any clear authority in this area. The Department understands the public concern surrounding groundwater quantity issues; however, the WPDES permit is not the mechanism to address quantity issues. No other authority exists. The estimated water usage at the operation is 144,000 gallons per day. Municipal wells in the area have historically produced from 190 to 2,000 gallons per minute. Wholesome Dairy estimated average consumption rate is 100 gallons per minute. Preliminary Department analysis of the proposed normal daily pumping rate indicates that after a year of operation, groundwater elevations in the fractured dolomitic bedrock may be depressed 10 feet or more, at a distance that may either be as little as 1,000 feet, or a distance as large as over 5,000 feet from Wholesome Dairy. However, if a local water supply well (public or private) were to be impacted by the operation's water usage, the issue would need to be settled between the operation and the affected party, either voluntarily or through legal action initiated by the affected party.

- g. **Comment:** We are concerned with the arsenic levels in the groundwater in the area around the proposed operation. Will the water usage at the operation cause the arsenic levels to increase? Who will be held accountable if the levels increase?

Department Response: The Department is aware of arsenic levels of concern with municipal water supply wells. It is believed that the arsenic source is that of a mineral deposit within a geologic formation under Lake Winnebago. The rise in arsenic levels is believed to be caused by the lowering of the water table. Until the wells at Wholesome Dairy are fully operational, it is impossible to determine if the water usage at Wholesome Dairy will have an effect on the concentration of arsenic in neighboring wells. Due to the dolomitic nature of the substrate, a variety of factors will effect the arsenic concentration and it will be impossible to determine if Wholesome Dairy operations will be the sole factor in any rise in concentration.

- h. **Comment:** The dairy is proposing to spray irrigate liquid manure in the summer months. We are concerned with this practice and want the permit to deny this practice.

Department Response: Wholesome Dairy is required to submit a comprehensive Manure Management Plan. Each part of the plan will be reviewed. This includes the proposal to spray irrigate a portion of the liquid manure during the growing season. The Department is willing to approve a spray irrigation management plan that applies manure and nutrients in a manner that maintains and enhances the growing crop and does not impact water quality. Other industrial operations (for example food processors and cheese factories) have successfully applied liquid wastes to WPDES permitted sites. In fact, this practice is frequently used as it applies the needed nutrients at a time when the crop is growing. At all times, Wholesome Dairy must not have runoff or ponding of manure in cropped fields.

- i. **Comment:** The dairy is proposing to land apply manure several times per year. We are

concerned with the frequency and timing of applications.

Department Response: Wholesome Dairy is required to submit a comprehensive Manure Management Plan. The permit requires the plan to include information on the specific timing of the applications – when will it occur. Preliminary plans indicate that the operation intends to spray irrigate liquid manure during the growing season, and inject liquid manure into the soil in the fall months after the crop has been removed. The permit does not restrict the frequency or timing of the applications. The permit does limit the total volume of manure that can be applied in a growing season to the nitrogen needs of the cover crop. Hence, fall applications of manure will need to be carefully coordinated with anticipated spring plantings to ensure no over-application of manure (nitrogen) will occur. Over-applications of nitrogen will be considered a violation of permit conditions.

- j. **Comment:** We are concerned with odors generated by the operation. What is the Department going to require Wholesome Dairy to do to control the awful stench generated by the agitation of the manure storage facilities and landspreading activities?

Department Response: Again, the Department lacks clear authority in this area. The Department has some authority to address odor complaints should they arise under s. NR 429.03, Wis. Adm. Code, for Malodorous Emissions. This authority is not related to the WPDES permit that is being issued to this operation since the WPDES permit is a water quality based permit. The Department is also starting a process to study and address air quality impacts (including odor) of animal agriculture on a statewide basis. This study is expected, at a minimum, to develop standards and voluntary best management practices (BMPs) to reduce or minimize potential problems from Confined Animal Feeding Operations (CAFOs). Wholesome Dairy will have to comply with any standards that are promulgated. Wholesome Dairy has proposed the construction and operation of two methane digesters that are designed to reduce odor production. Again, the WPDES permit is not the mechanism to address the concerns.

- k. **Comment:** We are concerned with the increase in road traffic as a result of the expansion of the dairy.

Department Response: The EA determined that increase in road traffic would occur, however, the WPDES permit clearly does not have authority for road traffic and road weight limitations. The Department lacks clear authority in this area. The local zoning authority (local township or county) is in the position to address these concerns.

- l. **Comment:** We are concerned with the increased noise (around the clock activity) at the operation. Can the Department do something about the potential noise problems?

Department Response: The EA recognizes there will be increased noise with an operation of this size. Again, the Department lacks clear authority in this area. It is suggested that noise problems be discussed directly with Wholesome Dairy. Another option is to have the local zoning authority (local township or county) address these concerns.

- m. **Comment:** There has been some confusion in regards to the expected size of the operation. We now understand the dairy will house up to 3,300 cows. We request the Department to limit Wholesome Dairy to this size and not allow them to expand.

- n. **Department Response:** The WPDES permit issued to Wholesome Dairy will not limit the size of the operation. However, there are several checks in place to ensure any expansion will be done in an environmentally acceptable manner. If Wholesome Dairy intends to construct any additional manure storage facilities, prior Department approval is necessary.

This also applies to any modifications to previously approved facilities. In addition, Wholesome Dairy is required to notify the Department prior to adding cows to the herd. Any significant addition will require a modification to the Manure Management Plan and Department approval. If the increase to the herd is in excess of 25% (800 head), an EA will be required, and possibly a permit modification. A WPDES permit modification will require an additional public notice period prior to issuance.

- o. **Comment:** In general, the EA did not adequately address all areas of concern. An Environmental Impact Statement is requested.
Department Response: The Department has determined an Environmental Impact Statement will not be completed. The draft EA completed for Wholesome Dairy identifies and discloses all areas normally covered by a full EIS. In addition, many areas reviewed under the EA are beyond the authority of the WPDES permit program and may exceed general Department authority. The purpose of the EA was to address impacts associated with the issuance of the WPDES permit to Wholesome Dairy.

2. Changes Made to the Public Noticed Permit

As a result of the comments received, changes were made to the public noticed permit. Significant changes are highlighted below:

- a. The permittee asked for permission to implement a composting program for separated manure solids. Permit conditions were added requiring pre-approval of the construction and operation of a composting system, and required the monitoring of any landspread compost.
- b. Permit conditions were added to require monitoring and sampling of any separated manure solids that are land applied.
- c. The effective date of the permit was changed to April 1, 2001 and the expiration date was changed to March 31, 2006.

Department Authorities: The Department has the authority to issue, modify, suspend, or revoke WPDES permits and to establish effluent limitations and permit conditions under Chapter 283, Wis. Statutes. For discharges to groundwaters and surface waters of the State, Wis. Adm. Code Chapters NR 200, NR 203, NR 205, NR 140, NR 102, NR 104, NR 105, NR 106, NR 213, NR 214 and NR 243 have been adopted by the Department pursuant to this statutory authority.

As provided by Section 283.63, Wis. Stats. and Chapter 203, Wis. Adm. Code, persons desiring further adjudicative review of the final determination to reissue this WPDES permit may request a public adjudicatory hearing. Requests shall be made by filing a verified petition for review with the Secretary of the Department of Natural Resources. Further information regarding the conduct and nature of public adjudicatory hearings may be obtained by contacting the Department of Natural Resources, WPDES Permit Section, Box 7921, Madison, Wisconsin 53707. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request. For information concerning this final determination contact Doris Thiele - WT/2, Department of Natural Resources, PO Box 7921, Madison, WI, 53707.