

# Permit Fact Sheet

## General Information

Permit Number:	WI-0056308-06-0
Permittee Name:	Daybreak Foods – Creekwood - Cage Free; (formerly Daybreak Foods Inc. - Creekwood Farm)
Address:	N5505 Crossman Road
City/State/Zip:	Lake Mills, WI 53551
Discharge Location:	Daybreak Foods - Creekwood - Cage Free; <ul style="list-style-type: none"> <li>• Layers - N5344 Crossman Road, Lake Mills, WI</li> <li>• Pullets - N5432 Crossman Road, Lake Mills, WI</li> </ul>
Receiving Water:	Unnamed tributaries to the Lower Koshkonong Creek and the Lower Crawfish River watersheds and groundwaters of the state
StreamFlow (Q <sub>7,10</sub> ):	N/A
Stream Classification:	N/A

Animal Units					
Animal Type	Current AU		Proposed AU (Note: If all zeroes, expansions are not expected during permit term)		
	Mixed	Individual	Mixed	Individual	Date of Proposed Expansion
Layers (each) - non-liquid system	20753	25527	0	0	
Broilers/Pullets (each) - non-liquid system	3120	4992	0	0	
Total	23873	25527	0	0	

## Facility Description

Daybreak Foods – Cage Free – Creekwood has recently changed its name from Daybreak Foods Inc. – Creekwood Farm. The facility is a recently renovated cage free egg laying operation with 2,075,340 laying chickens in five barns and 624,000 pullets in three barns. The facility has been permitted since 1985 and is currently permitted under the former name Daybreak Foods Inc. - Creekwood Farm. The current permit expired on 12/31/2017. The farm submitted a timely application allowing it to maintain permit coverage until the permit is reissued. This will be the 5<sup>th</sup> permit reissuance for this facility.

The number of birds at this facility has varied over the course of the current permit. The facility was depopulated in 2015 due to the Avian Flu outbreak. When the permit application was submitted in 2017, the facility was housing around

912,000 layers and 155,000 pullets and projecting the increase to the current flock size. The facility is also covered by the Jefferson County Livestock Siting Ordinance which sets a maximum approved size. There are no current plans to expand the facility during the proposed permit term.

All eggs produced at the new egg processing facility are broken and or graded. Approximately 22,000 gallons of egg wash wastewater are produced daily at the egg processing facility. The wastewater is processed prior to being stored and land applied to cropland following an approved Nutrient Management Plan (NMP). The wastewater treatment process consists of three cells, an 875,000-gallon covered anaerobic digester, an 875,000-gallon aerobic/aerated treatment cell and finally a 3,300,000 gallon decanter lagoon where the wastewater is stored.

The facility produces approximately 50,000 tons of solid chicken manure annually. Manure is conveyed out of the layer barns and into the Manure Drying and Processing building where it processed into a fertilizer. Manure is also hauled via truck from the pullet houses to the Manure Drying and Processing building. All mortality is currently being landfilled. Egg shells from the egg processing facility are delivered to the Manure Drying and Processing building and blended into the fertilizer as an added nutrient benefit. There are also 2 remaining concrete sheds approved for solid manure in an emergency, a new feed mill and storage facility, and a new office and employee check in building.

The previous facility was almost completely replaced during the renovation (2017 – 2020) to a cage free facility. The nine old layers houses that were depopulated in the summer of 2019 were removed from the site in winter/spring of 2020. Three pullet houses, one old wastewater lagoon, and one compost building were also removed during this project.

A previous adjacent third-party operation (Unlimited Renewables) that processed manure for this facility is no longer in existence or involved in this operation. Daybreak Foods took back operation of the facility in 2016, that is on their property and has operated it since the closure. It is once again part of Daybreak Foods Creekwood Cage Free. The permit for Unlimited Renewables is being discontinued as part of the permit reissuance.

Listed below are the proposed sample points for this permit.

<b>Sample Point Designation For Animal Waste</b>	
<b>Sample Point Number</b>	<b>Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)</b>
004	Solid Manure Storage - 2 Buildings - This sample point is for the 2 existing manure storage buildings (F1, and F2) on the south side of the farm at N5505 Crossman Road, Lake Mills WI. These 2 buildings have concrete floors and have been used for manure processing and storage in the past. The 2 barns were re-evaluated in 2017 and approved on May 13, 2019. The facility only plans to use these buildings in an emergency. Manure stored in these buildings would be transferred to a third party for further processing or land application with Department approval obtained on October 16, 2019 with the approval of the NMP. This manure could also be land applied or headland stacked using this sample point as allowed in the Department approved nutrient management plan.
006	Egg breaking wastewater. This sample point covers the entire wastewater treatment system on the west side of Crossman Road (N5505) installed in 2011 that consists of 3 inground structures to treat and store the wastewater and the new egg breaking and process wastewater system, built in 2018 and 2019, on the east side of Crossman Road (N5344). The treatment system includes a 0.875 million-gallon inground digester followed by a 0.875 million-gallon aerobic inground lagoon and then the treated wastewater goes into a 3.3 million gallon holding lagoon. All wastewater must be applied in accordance with the facilities approved Nutrient Management Plan. This treatment and storage system meets permit requirements.
008	Solid Pullet Manure - this sample point includes all the pullet manure generated at the pullet barns at N5332 County Highway A, Lake Mills, WI on the west side of the Crossman Road and part of the original Creekwood site. This manure will be transferred by trucks to the new Manure Drying and Processing Building on the east side of Crossman Road (N5344). This includes the 3 new cage free pullet barns

Sample Point Designation For Animal Waste	
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	installed in 2018 and 2019. This manure could also be land applied or headland stacked using this sample point as allowed in a Department approved nutrient management plan.
009	Manure Drying and Processing Building - Solid Layer Manure – this sample point includes all manure generated at the 5 new cage free layer barns located on the east side of Crossman Road (N5344), Lake Mills WI. and the manure transported from the 3 Pullet Barns (Sample Point 008) located at N5432 County Highway A, Lake Mills, WI. The manure from the adjacent layer barns is transferred right into the manure processing facility where it is dried and stored. A third party will take the dried manure, as fertilizer, with written approval from the Department in accordance with NR 243.142, Wis. Adm. Code. The written approval is contained in the NMP approval. This manure could also be land applied or headland stacked using this sample point as allowed in the NMP and NMP approval. The new layer barns, buildings, and the manure drying and processing building were approved by the Department in 2018 and meet permit requirements.

# 1 Livestock Operations - Proposed Operation and Management

## Production Area Discharge Limitations

Beginning on the effective date of the permit, the permittee may not discharge pollutants from the operation’s production area (e.g., manure storage areas, outdoor animal lots, composting and leachate containment systems, milking center wastewater treatment/containment systems, raw material storage areas) to navigable waters, except in the event a 25-year, 24-hour rainfall event (or greater) causes the discharge from a structure which is properly designed and maintained to contain a 25-year, 24-hour rainfall event for this location as determined under s. NR 243.04. If an allowable discharge occurs from the production area, state water quality standards may not be exceeded.

## Runoff Control

The permit requires control of contaminated runoff from all elements of the production area to prevent a discharge of pollutants to navigable waters in accordance with the Production Area Discharge Limitations and to comply with surface water quality standards and groundwater standards. Beginning on the effective date of this permit, (if needed) interim measures shall be implemented to prevent discharges of pollutants to navigable waters. In addition, permanent runoff control system(s) shall be designed, operated and maintained in accordance with the requirements found in USDA Natural Resources Conservation Service standards and ch. NR 243, Wis. Adm. Code. If any upgrading or modifications to runoff controls are necessary, formal engineering plans and specifications must be submitted to the Department for approval.

## Manure and Process Wastewater Storage

The permit requires the operation to have adequate storage for manure and process wastewater and that storage or containment facilities are designed, operated and maintained to prevent overflows and discharges to waters of the state. In order to prevent overflows, the permittee must maintain levels of materials in liquid storage or containment facilities at or below certain levels including a one foot margin of safety that can never be exceeded. If any upgrading or modifications to the storage facilities are necessary, formal engineering plans and specifications must be submitted to the Department for approval.

The permittee currently has no liquid manure storage and never has.

The facility constructed a new egg processing plant on the east site of Crossman Road as part of the renovation in 2018 - 2020 which replaced the now closed egg processing plant on the west side of Crossman Road. The new egg processing plant now transfers process wastewater to the existing process wastewater collection and treatment system. This treatment and storage system is on the west side of Crossman Road and it was not changed during the 2018 – 2020 renovation.

### **Solid Manure Storage**

The facility dries manure and has constructed a new roofed manure processing facility (2019) that will further dry and store the manure from both the Layers and the Pullets. The facility received Department plan and specification approval prior to construction of this facility on the east side of Crossman Road. The new facility provides 321 days of storage. The facility also received Department approval on May 13, 2019 to continue use the roofed storage buildings F1 and F2 for emergency storage of solid manure. Former roofed storage building F3 was abandoned and torn down. If any upgrading or modifications to the storage facilities are necessary, formal engineering plans and specifications must be submitted to the Department for approval.

### **Solid Manure Stacking**

The operation has proposed to stack solid manure. All stacking of solid manure shall be done in accordance ch. NR 243, Wis. Adm. Code, which includes restrictions from NRCS Standard 313. Stacking of manure is considered to be part of the production area and is subject to the Production Area Discharge Limitations.

### **Ancillary Service and Storage Areas**

The permittee shall take preventative maintenance actions and conduct visual inspections to minimize pollutant discharges from areas of the operation that are not part of the production area or land application areas. These areas are called ancillary service and storage areas and include access roads, shipping and receiving areas, maintenance areas, refuse piles and CAFO outdoor vegetated areas.

### **Nutrient Management**

With 2 million layers and 800,000 pullets (24,600 animal units), it is estimated that approximately 8.03 million gallons of process wastewater and 50,000 tons of solid manure will be produced per year. The permittee does not own any acres of cropland and rents about 491.9 acres. Given the rotation commonly used by the permittee, 477.3 acres are available (or open) to receive manure and process wastewater on an annual basis. The final animal numbers at the completion of the project are somewhat different from the projected numbers in the reviewed and approved Nutrient Management Plan (NMP), but are in the same range, and adjustments will be made through required annual Nutrient Management Plan updates.

#### *Manure*

The permittee does not intend to land apply solid manure on fields in the NMP. The permittee has a manure distribution plan that was reviewed and approved by the department based on Wisconsin Administrative Code NR 243.142 (2)(b)(2). This plan allows the permittee to manipulate the poultry manure via an industrial drier and sell to AgriNatural Grower Supply (AGS) under a DATCP fertilizer license. The approved plan requires the permittee to ensure AGS will apply the purchased manipulated manure only on fields that have a NMP that meets all the requirements of WI NRCS 590 Standard. This ensures effective management of the amount, source, placement, and timing of manure applications. The permittee anticipates that all solid manure produced by the facility will be manipulated and distributed to AGS. If the way the manipulation of the manure changes, or the purchaser of the manure changes, the permittee shall notify the department and resubmit a plan for review on how they will manage the manure moving forward. This approved plan is between the permittee and Wisconsin DNR, AGS is not involved in this agreement. If a compliance issue is found with the land application or handling of the distributed manure by AGS, including but not limited to applying the manure on fields not

in a WI NRCS 590 Nutrient Management plan, the department has the authority to rescind this distribution approval. This may lead to the inability of the permittee to further distribute manure to AGS.

The permittee previously used a variety of other techniques for treating manure over the previous permit term; these include pelletizing, drying, and composting of manure. Manure was previously spread on fields identified in the NMP or distributed to a third-party for land spreading, these agreements are no longer active. Overall, the change in manure distribution is not viewed to be significant by the department.

#### *Process Wastewater*

Process wastewater will be spread only on fields identified in the Daybreak Foods Creekwood Cage Free approved NMP. Process wastewater is produced at the inline egg breaking plant on site. The plant sorts, washes, and breaks fresh eggs. During the process, wastewater is generated by washing the eggs, equipment and building interior. This process wastewater travels through an anaerobic digester and aeration pond before being collected and stored in a 3.3 million-gallon storage tank. The plant will produce approximately 22,000 gallons of wastewater per day after the flock expansion. The permittee anticipates applying wastewater according to the following schedule: Wastewater will be land applied on alfalfa 3-4 times a year (at the beginning of the season and after each cutting), and after corn silage and wheat harvest, March – November.

#### *Spreading Requirements*

Any manure that is not applied under the manure distribution plan is subject to requirements set forth in the NMP and the permit. The permit will require sampling and analysis of manure and process wastewater that will be landspread. Landspreading rates must be adjusted based on sample analysis. The permit requires the permittee to maintain a daily log that documents landspreading activities. The permit also requires the submittal of an annual report that summarizes all landspreading activities. Plans must be updated annually to reflect cropping plans and other operational changes. Among the requirements, the plans must include detailed landspreading information including field by field nutrient budgets.

The permittee is required to implement a number of practices to address potential water quality impacts associated with the land application of manure and process wastewater. Among the permit conditions are restrictions on manure ponding, restrictions on runoff of manure and process wastewater from cropped fields, and setbacks from wells and direct conduits to groundwater (e.g., sinkholes, fractured bedrock at the surface). In addition, the permittee must implement a phosphorus based nutrient management plan that addresses phosphorus delivery to surface waters by basing manure and process wastewater applications on soil test phosphorus levels or the Wisconsin Phosphorus index. Additional phosphorus application restrictions apply to fields that are high in soil test phosphorus (>100 ppm).

The permittee must also implement conservation practices when applying manure near navigable waters and their conduits, referred to as the Surface Water Quality Management Area (SWQMA). These practices include a 100-foot setback from navigable waters and their conduits, a 35-foot vegetated buffer adjacent to the navigable water or conduit, or a practice that provides equivalent pollutant reductions equivalent to or better than the 100-foot setback.

In addition, the permittee must comply with restrictions on land application of manure and process wastewater on frozen or snow-covered ground. Included in these restrictions is a prohibition on surface applications of solid manure ( $\geq 12\%$  solids) on frozen or snow-covered ground during February and March. Non-emergency surface applications of liquid manure (<12%) on frozen or snow-covered ground are prohibited.

#### **Monitoring and Sampling Requirements**

The permittee must submit a monitoring and inspection program that outlines how the permittee will conduct self-inspections to determine compliance with permit conditions. These self-inspections include visual inspections of water lines, diversion devices, storage and containment structures and other parts of the production area. The permit requires periodic inspections and calibrations of landspreading equipment. The permittee must take corrective actions to problems identified inspections or otherwise notify the Department. Samples of manure, process wastewater and soils receiving land applied materials from the operation must also be collected and analyzed.

## Sampling Points

The permit identifies the different sources of land applied materials (e.g., manure storage facilities, milking centers, egg-washing facilities) as “Sampling Points.” For these Sampling Points, the permittee is required to sample and analyze the different sources for nutrients and other parameters which serve as the basis for determining rates of application for these materials, as shown in the table below. Other areas are also identified as Sampling Points as a means of identifying them as areas requiring action by the permittee, such as an upgrade or evaluation of a certain system or structure (e.g., runoff control systems), even though sampling is not actually required.

### Sample Point Number: 004- Manure Storage - 2 Buildings; 008- Solid Pullet Manure; and 009- Manure Drying Building – Solid Layer Manure

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nitrogen, Total		lbs/ton	Quarterly	Grab	
Nitrogen, Available		lbs/ton	Quarterly	Calculated	
Phosphorus, Total		lbs/ton	Quarterly	Grab	
Phosphorus, Available		lbs/ton	Quarterly	Calculated	
Solids, Total		Percent	Quarterly	Grab	

#### 1.1.1 Changes from Previous Permit

Sample Point 004 was added to include the 2 remaining solid manure storage buildings F-1 and F-2, which the facility only plans to use in emergency situations. They had previously been included in Sample Point 007 which was inactivated, as covered below.

Sample Point 007, solid manure from the old Layer Buildings, was inactivated as the solid manure from the new cage free layer barns is now combined with the adjacent Manure Drying and Processing Building (Sample Point 009).

Sample Point 008 was reworded to reflect the new cage free pullet barns instead of the older pullet buildings which have been removed. It is still a solid manure sample point.

Sample Point 009 has been added to include the new Manure Drying and Processing Building and the solid manure from the adjacent 5 new cage free layer barns which is transferred into it along with solid manure from Sample Point 008.

#### 1.1.2 Explanation of Operation and Management Requirements

These are typical sampling requirements for solid poultry manure.

## Sample Point Number: 006- Egg Breaking Wastewater

### Monitoring Requirements and Limitations

Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nitrogen, Total		lb/1000gal	2/Month	Grab	
Nitrogen, Available		lb/1000gal	2/Month	Calculated	
Phosphorus, Total		lb/1000gal	2/Month	Grab	
Phosphorus, Available		lb/1000gal	2/Month	Calculated	
Solids, Total		Percent	2/Month	Grab	

### 1.1.3 Changes from Previous Permit

Sample point 001 was inactivated since it was for an old wastewater lagoon that was no longer in use and was removed, with approval during the renovation.

Sample point 006 was reworded to reflect the new processing building and the fact that egg wash water generated at a CAFO is now considered a process wastewater and regulated by Chapter NR 243 Wis. Adm. Code. In the past it was regulated as an industrial wastewater under NR 213 and NR 214, Wis. Adm. Code.

### 1.1.4 Explanation of Operation and Management Requirements

These are typical sampling requirements for egg washing process wastewater regulated under Chapter NR 243 Wis. Adm. Code. Process wastewater is now included in the Daybreak Foods Creekwood Cage Free's approved NMP which provides the same requirements as those for manure, except that winter landspreading of process wastewater is allowed as specified in the NMP approval. The previous Land Application Manage Plan is no longer being used. Among several benefits to this change in requirements, the recently approved NMP is a phosphorus based plan.

## 2 Schedules

### 2.1 Monitoring & Inspection Program

Use of the department's monitoring and inspection program template is encouraged, but optional.

Required Action	Due Date
Proposed Monitoring and Inspection Program: Consistent with the Monitoring and Sampling Requirements subsection, the permittee shall submit an updated monitoring and inspection program within 30 days of the effective date of this permit.	11/01/2020

### 2.2 Emergency Response Plan

Required Action	Due Date
Develop Emergency Response Plan: Develop an updated written Emergency Response Plan within 30 days of permit coverage, available to the Department upon request.	11/01/2020

## 2.3 Nutrient Management Plan

Submit annual nutrient management plan (NMP) updates by March 31 of each year. Note, in addition to annual NMP updates, submit NMP amendments and substantial revisions to the department for written approval prior to implementation of any changes to the NMP.

Required Action	Due Date
Management Plan Submittal: Submit any necessary updates to the Nutrient Management Plan to meet the conditions outlined in this permit (see conditions in the Livestock Operational and Sampling Requirements section).	11/01/2020
Management Plan Annual Update #1: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	03/31/2021
Management Plan Annual Update #2: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	03/31/2022
Management Plan Annual Update #3: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	03/31/2023
Management Plan Annual Update #4: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	03/31/2024
Management Plan Annual Update #5: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	03/31/2025
Ongoing Management Plan Annual Updates: Continue to submit Annual Updates to the Nutrient Management Plan until permit reissuance has been completed, to include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	06/30/2025

## 2.4 Annual Reports

Submit Annual Reports by January 31st of each year in accordance with the Annual Reports subsection in Standard Requirements.

Required Action	Due Date
Submit Annual Report #1: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2021
Submit Annual Report #2: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2022
Submit Annual Report #3: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2023
Submit Annual Report #4: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2024

Submit Annual Report #5: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2025
Ongoing Annual Reports: Continue to submit Annual Reports until permit reissuance has been completed, to include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	06/30/2025

## 2.5 Submit Permit Reissuance Application

Required Action	Due Date
Reissuance Application: Submit a complete permit reissuance application 180 days prior to permit expiration.	04/01/2025

## 2.6 Explanation of Schedules

**This is a typical CAFO permit schedule for a recently renovated facility where all plans and specifications were approved, construction was completed, and post construction documents were submitted.**

## Special Reporting Requirements

None

## Other Comments:

None

## 3 Environmental Analysis Summary

The WPDES permit issuance process for a new source concentrated animal feeding operation is an integrated analysis action under s. NR 150.20, Wis. Adm. Code and does not require a separate environmental analysis because it is included in this document. The entire facility (existing and new) renovation from 2018 – 2020 makes this operation a new source CAFO as defined in NR 243.03(41). The procedures, documents and information listed below provide for public disclosure and include an environmental analysis that provides sufficient information to establish that an environmental impact statement is not required (NR 150.03(12m)).

- The WPDES Final permit reissuance application package.
- Environmental Analysis Questionnaire; received on 11/14/2017, as well as additional requested materials, as part of the permit application process. This document and the attachments are located on the Department's specific webpage for Daybreak Foods Creekwood Cage Free located at <https://dnr.wisconsin.gov/topic/CAFO/RecentPermits.html>
- Three Plans and Specifications submittals for the renovation and construction of the required components of the project. This was separated into the east side of the road facilities, west side of the road facilities, and the process wastewater treatment project. Plans and specifications and evaluations were also submitted for the older manure storage buildings and the abandonment of the old wastewater lagoon. The Conditional Approval letters are attached.

- 2 Stormwater Construction Site Notices of Intent; Project 2 was submitted on September 15, 2017 and General Permit coverage was granted on October 12, 2017. Project 1 was submitted on January 4, 2018 and General Permit coverage was granted on January 31, 2018. As part of the intake process, the project area was screened for NHL, archeological/historical impacts, and wetland/hydric soils. Coverage letters are attached.
- The facility’s Nutrient Management Plan. The October 16, 2019 Conditional NMP Approval letter is attached.
- May 4, 2020 E mail from Jim Amrhein, DNR Water Resources Management Specialist, to Mark Cain, DNR Wastewater Engineer, regarding the water resources in the project area. This document is attached.
- June 19, 2020 memo from David Panofsky, DNR Air Management Engineer to Mark Cain, and is attached

**Additional Review Information**

**Daybreak-Creekwood Groundwater Review**

The geology of western Jefferson County, where Daybreak – Creekwood is located can be separated into three general units: unconsolidated glacial drift, dolomite, and sandstone. The glacial drift consists of sand, gravel, silt, and clay overlying a bedrock valley which extends from the central regions of the county to the southwestern corner and beyond. The bedrock consists of Ordovician-aged Prairie du Chien formation, which is predominantly dolomite, overlying Cambrian-aged sandstone, and Precambrian crystalline igneous and metamorphic basement rock. During the installation of the facility’s high capacity wells, bedrock was encountered at depths ranging from 105 to 119 feet to the west of Crossman Road, and 141 to 163 feet to the east.

The geology beneath the Daybreak site is saturated to the mostly impermeable underlying Precambrian basement rocks – a total saturated depth of approximately 800ft. Soil borings east of Crossman Road document saturation beginning at 3.5 to 13ft below ground surface, at elevations ranging from 842 to 850 ft MSL. The boring logs document seams of sand and gravel, and lenses of clay indicating that water perching and shallow preferential flows zones are likely present. This is supported by micro-topographic features including the presence of wetlands, wet depressions, small ponds, and mid-slope seeps that occur in the area. These wet areas provide increased hydraulic connectivity opportunities between surface water and shallow groundwater across the Daybreak site.

Recharge to groundwater is facilitated through precipitation. Localized shallow groundwater flow direction follows the surface topographic contours from high to low elevations, or towards cones of depression formed by drawdown from well usage. Regional groundwater flow is slightly to the east but appears to be mostly static.

Wells in the area are likely to be constructed to withdraw water from either the sand and gravel, or the sandstone aquifer, both of which have significantly higher yield than the Prairie du Chien formation. Due to their depth, volume of water in the aquifer, and downward groundwater migration retardation through the Prairie du Chien, wells constructed in the sandstone are less vulnerable to contamination originating from regional agricultural activities at the surface. Subsequently, sandstone wells in the area consistently yield water that contains very low to undetectable levels of nitrate.

Daybreak Foods – Creekwood Cage Free is a WDNR-permitted, high capacity water use property with 11 operational wells: one community well, one processing well, two private wells, and eight agricultural use wells. These wells are approved for a total water withdrawal of 1,894,000 gallons per day. In 2019, total water usage was reported as 27,031,599 gallons for the year. Water usage reported to the WDNR by the facility from 2010-2019 is reported in Table 1. Most of the water used is consumption by animals and associated husbandry, followed by egg washing and processing. Daybreak-Creekwood estimates approximately 8,000,000 of wastewater is currently generated annually by the facility, and this number is projected to remain the same through the permit term. This wastewater is disposed of by land application on approved local farm fields as detailed in the Nutrient Management Plan as a part of the WDNR-issued WPDES permit.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Annual Total (gallons)	20,131,104	19,738,121	21,206,618	18,676,967	18,495,241	9,943,969	16,587,132	17,704,503	27,262,591	26,911,599

Table 1. Annual reported groundwater withdrawal totals for Daybreak-Creekwood.

Note: The facility was depopulated in the spring of 2015 – fall of 2015 due to the Avian Bird Flu outbreak.

## Groundwater Monitoring

Groundwater monitoring is a four-dimensional diagnostic tool that facilitates the acquisition of qualitative and quantitative data, at a fixed intercept between a lateral and vertical plane, at a discrete point in time, for the purpose of analysis. Monitoring groundwater over a defined period of time gives us several individual snapshots which are compiled to form an image of groundwater behavior, water quality, and quantity. Just like more pixels per inch gives us a clearer picture on a television, more data points in a smaller area over a shorter amount of time delivers a higher resolution image of the groundwater system and how it may be behaving.

Groundwater monitoring does not prevent contamination from happening or remove the contaminants that are present. Rather, groundwater monitoring networks are generally installed to assist in the detection or definition of a known or suspected contamination problem. Several factors are considered by CAFO engineers, permit drafters, and hydrogeologists when assessing whether groundwater monitoring will be required at a WPDES-permitted facility. These factors fall broadly into four categories:

- Generation and Source – How the contaminant is being made, and structures or points where it is stored.
- Characterization – What the chemical and physical properties, behavior, and persistence of the contaminant is in the environment to which it is being released.
- Activation – How the contaminant may be released to the environment, and how it may move, or be transported around in the unsaturated and saturated subsurface
- Receptors – What vulnerable resources or populations may also be using the same aquifer at a point down gradient from the facility.

The analysis of these factors allows regulators to gauge the risk that a facility poses to groundwater quality and quantity within the design management zone specified in the submitted site plans. Department staff have reviewed these factors and are not proposing any groundwater monitoring wells for this facility during this permit reissuance process.

## Drinking and Groundwater – Public Water System Status

When regulating public water systems, the department considers water distribution systems and all wells connected to those systems (one well or multiple wells) as the regulated units. A single property can have multiple public water systems (distribution systems) of the same or different regulatory classifications. However, if previously separated distribution systems were combined (distribution systems connected) they would thereafter be considered one unit with one classification.

Drinking water systems for larger CAFOs are often regulated as non-transient non-community (NTNCWS) or transient non-community (TNCWS) public water systems. NTNCWS and TNCWS public water systems are subject to inspection (every five years), must complete required sampling and must comply with NR 809, 810, and 812 WI Admin Code regulations and construction requirements. If drinking water systems (including those at CAFOs) don't meet the definition of a public water system, they are classified as "private" and are unregulated.

Definitions of "NTNCWS", "TNCWS" and "Public water systems" from NR 810.02 WI Admin Code follow;

**(30)** "Non-transient non-community water system" or "NTNCWS" means a non-community water system that regularly serves at least 25 of the same persons over 6 months per year.

Note: Examples of non-transient non-community water systems include those serving schools, day care centers and factories.

**(35)** "Public water system" or "system" or "PWS" means a system for the provision to the public of piped water for human consumption through pipes or other constructed conveyances, if the system has at least 15 service connections or

regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a "community water system" or a "non-community water system". A system:

(a) Includes any collection, treatment, storage and distribution facilities under the control of the operator of a system and used primarily in connection with the system.

(b) Includes any collection or pretreatment storage facilities not under the system's control which are used primarily in connection with the system.

Note: The definition of public water system as regulated by this chapter is broader and includes more water systems than those governed by the public service commission under its definition of a public utility in ch. 196, Stats.

(42) "Transient non-community water system" or "TNCWS" means a non-community water system that serves at least 25 people at least 60 days of the year but does not regularly serve at least 25 of the same persons over 6 months per year.

Note: Examples of transient non-community water systems include those serving taverns, motels, restaurants, churches, campgrounds and parks.

A few CAFOs (those with 25 or more people living there at least six months per year) would be regulated under a third category - other than municipal community water systems (OTMs) but this category is rare for CAFOs and doesn't apply to any Daybreak Creekwood facilities.

### **Regulatory Status Review of Daybreak Creekwood-Lake Mills Drinking Water Distribution Systems**

Old main production facility at corner of Crossman Rd and County Highway A

This long time non-transient non-community public drinking water system located at the corner of Crossman Rd and Hwy A was called by the drinking water program "Daybreak Foods, Creekwood Complex- Egg Pkg Plant (PWSID # 12802735)" and was served by one well (WUWN WN980).

Through the fall of 2019 and winter of 2020 animals were moved out of this facility and employee numbers were reduced.

Although the facility still contains several offices and continues to serve water to those in the building, it was deactivated as a public water system on 1/27/2020 as the number of people using this system dropped below the threshold for a public water system.

\*\*Prior to deactivation, the facility had confirmed bacteria detections in the water system. Although the system was subsequently deactivated the operator continued with the follow-up as if they were still an active system, completing corrective actions, disinfecting and completing substantial follow-up sampling through the end of February.

New production facility on east side of Crossman Rd – Creekwood Cage Free

This new and expanding non-transient non-community public water system where the main production and processing of eggs occurs is called by the drinking water program Creekwood Cage Free (PWSID# 12813141) and is served by four wells (WUWNs ZT990, ZT923, ZT884 and ZU003 all located within 100 feet of each other). This drinking water system also serves the millhouse building immediately across Crossman Rd to the west.

They began moving chickens and staff into the new buildings in fall of 2019, the department activated the Non-transient non-community water system (NN) public drinking water system on 10/28/2019 and we completed our first Sanitary Survey Inspection there on 11/12/2019.

To date they have corrected all deficiencies noted in the sanitary survey and they have been in compliance with all of the required sampling requirements. The initial start-up sampling requirements for NN systems constitute a pretty heavy sampling load, however they have been able to collect all required compliance samples to-date, have provided public noticing when required and have certified results where needed. Recently there has been a shift in the sampling duties at the facility, but they appear to be adjusting to that.

The facility will be expanding over time as additional buildings are constructed. They currently only operate two wells (ZT923 and ZU003) but the other two wells will be added as needed when additional buildings are ready to be used.

“Pullet” facility far west of Crossman Rd with driveway on County Highway A

The facility on the property where Daybreak raises young chickens in preparation for moving them to the egg laying facility has been referred to as the “Pullet Barns” by the public water staff. This facility currently does not meet the definition of a public water system and we have not assigned it a PWSID#. Unless the staffing population grows it will not be one in the future.

During the period it was being constructed we were informed that they planned to have 18 fulltime staff (in shifts) working at the facility as well as teams periodically coming in to move the animals. With relatively high levels of security no additional transient populations were expected. Although we anticipated that it was unlikely to be a public water system we did attend meetings, well installation, groutings and well pitless installations in the event that the site did turn out to be a public water system. In the end the numbers did not change much from the preliminary estimates so this will remain a “private” unregulated system unless their future population increases.

More information regarding public drinking water systems can be found on the Department’s web page at <http://dnr.wi.gov/topic/drinkingwater/>. Additional information about what it means to a small business that will be regulated as a public drinking water supply system is available at: <http://dnr.wi.gov/topic/SmallBusiness/DrinkingWater.html>

#### **Previous Environmental Assessments and Environmental Impact Statements**

The Department has completed many Environmental Assessments (EA) and a few Environmental Impact Statements (EIS) for Large Farm CAFOs in the past. This includes the EA for the large Farm Dairy Cafo General Permit in 2010/2011 which can be found at <http://dnr.wi.gov/topic/AgBusiness/documents/LargeDairyCAFOGP-EnvironmentalAssessment.pdf>

These documents provide additional analysis of impacts from projects such as this one.

#### **Other Attachments:**

Substantial Compliance Determination

Map(s)

Plan Approval Letter(s)

**Proposed Expiration Date: September 30, 2025**

Prepared By:



**Mark R. Cain**

**Wastewater Engineer**

**South Central Region**

**Date: June 16, 2020**

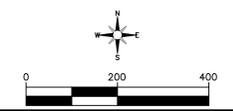
## Substantial Compliance Determination

Permittee Name: Daybreak Foods Creekwood Cage Free		Permit Number: 0056308-06-0
	Compliance?	Comments
Discharge Limits	Yes	
Sampling/testing requirements	Yes	
Groundwater standards	NA	
Reporting requirements	Yes	
Compliance schedules	Yes	
Management plan	Yes	
Other:	Yes	
Enforcement Considerations	None	
In substantial compliance?	Yes Comments:  Signature:     Mark Cain Date:             06/26/2020  Concurrence: MRC <span style="float: right;">Date: 06/26/2020</span>	



LEGEND  
 EXISTING WELL

NOTES:  
 1) DIMENSIONS AND LOCATIONS ARE APPROXIMATE BASED ON LIMITED SITE OBSERVATIONS, AN AERIAL PHOTOGRAPH, A TOPOGRAPHIC SURVEY PERFORMED BY REA, INC. PERSONNEL, AND AN ALTA SURVEY PERFORMED BY LANDTECH W PERSONNEL.



REVISIONS:
DATE
DATE
DATE
DATE

Resource Engineering Associates, Inc.  
 3510 Parmenter Street, Suite 100  
 Middleton, Wisconsin 53562-2507  
 Phone: 608-831-5522  
 Fax: 608-831-6564  
 Web: www.reaeng.com



**EXISTING SITE MAP**  
**WPDES PERMIT**  
**DAYBREAK FOODS, INC.**  
**533 E TYRANENA PARK ROAD**  
**LAKE MILLS, WI 53551**

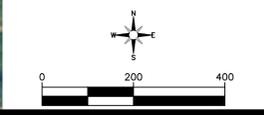
DATE: JUNE 2020
DRAWN: JWA
CHECKED: RJP
APPROVED: RJP
DRAWING NAME: 1720 construction WPDES.dwg
PROJECT NUMBER: 170020.1

FIG. 1



**LEGEND:**  
 E-W EXISTING WELL  
 P-W PROPOSED WELL

**NOTES:**  
 1) DIMENSIONS AND LOCATIONS ARE APPROXIMATE BASED ON LIMITED SITE OBSERVATIONS, AN AERIAL PHOTOGRAPH, A TOPOGRAPHIC SURVEY PERFORMED BY REA, INC. PERSONNEL, AND AN ALTA SURVEY PERFORMED BY LANDTECH WI PERSONNEL.



<b>REVISIONS:</b>	
DATE	
DATE	
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DATE	

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 Middleton, Wisconsin 53562-2507  
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**PROPOSED SITE MAP  
 WPDES PERMIT  
 DAYBREAK FOODS, INC.  
 533 E TYRANENA PARK ROAD  
 LAKE MILLS, WI 53551**

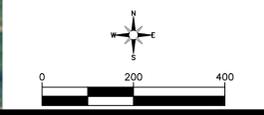
DATE: JUNE 2020  
 DRAWN: JWA  
 CHECKED: RJP  
 APPROVED: RJP  
 DRAWING NAME:  
 1720 construction WPDES.dwg  
 PROJECT NUMBER:  
 170020.1

**FIG. 2**



**LEGEND**  
 E-W EXISTING WELL  
 P-W PROPOSED WELL

**NOTES:**  
 1) DIMENSIONS AND LOCATIONS ARE APPROXIMATE BASED ON LIMITED SITE OBSERVATIONS, AN AERIAL PHOTOGRAPH, A TOPOGRAPHIC SURVEY PERFORMED BY REA, INC. PERSONNEL, AND AN ALTA SURVEY PERFORMED BY LANDTECH WI PERSONNEL.



<b>REVISIONS:</b>	
DATE	
DATE	
DATE	
DATE	

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 Middleton, Wisconsin 53562-2507  
 Phone: 608-831-5522  
 Fax: 608-831-6564  
 Web: www.reaeng.com



**FINAL SITE MAP  
 WPDES PERMIT  
 DAYBREAK FOODS, INC.  
 533 E TYRANENA PARK ROAD  
 LAKE MILLS, WI 53551**

DATE: JUNE 2020  
 DRAWN: JWA  
 CHECKED: RJP  
 APPROVED: RJP  
 DRAWING NAME:  
 1720 construction WPDES.dwg  
 PROJECT NUMBER:  
 170020.1

**FIG. 3**



January 31, 2018

Keith Kulow  
Daybreak Foods Inc Site  
PO Box 800  
Lake Mills WI 53551

Re: Coverage Under WPDES General Permit No. WI-S067831-05: **Construction Site Storm Water Runoff**

Permittee Name: **Daybreak Foods Inc Site**  
Site Name: **Daybreak Foods Inc Pullet Waste Storage Facility**  
WDNR FIN: **61384**

Dear Mr. Kulow,

The Wisconsin Department of Natural Resources received your Water Resources Application for Project Permits or Notice of Intent, on January 04, 2018, for **Daybreak Foods Inc Pullet Waste Storage Facility** and has evaluated the information provided regarding storm water discharges from your construction site. We have determined that your construction site activities will be regulated under ch. 283, Wis. Stats., ch. NR 216, Wis. Adm. Code, and in accordance with Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-S067831-05, Construction Site Storm Water Runoff. All erosion control and storm water management activities undertaken at the site must be done in accordance with the terms and conditions of the general permit.

The **Start Date** of permit coverage for this site is **January 31, 2018**. The maximum period of permit coverage for this site is limited to **3 years** from the **Start Date**. Therefore, permit coverage automatically expires and terminates 3 years from the Start Date and storm water discharges are no longer authorized unless another Notice of Intent and application fee to retain coverage under this permit or a reissued version of this permit is submitted to the Department 14 working days prior to expiration.

A copy of the general permit along with extensive storm water information including technical standards, forms, guidance and other documents is accessible on the Department's storm water program Internet site. To obtain a copy of the general permit, please download it and the associated documents listed below from the following Department Internet site:  
<http://dnr.wi.gov/topic/stormwater/construction/forms.html>

- Construction Site Storm Water Runoff WPDES general permit No. WI-S067831-05
- Construction site inspection report form
- Notice of Termination form

If, for any reason, you are unable to access these documents over the Internet, please contact me and I will send them to you.

To ensure compliance with the general permit, please read it carefully and be sure you understand its contents. Please take special note of the following requirements (This is not a complete list of the terms and conditions of the general permit.):

1. The Construction Site Erosion Control Plan and Storm Water Management Plan that you completed prior to submitting your permit application must be implemented and maintained throughout construction. Failure to do so may result in enforcement action by the Department.

2. The general permit requires that erosion and sediment controls be routinely inspected at least every 7 days, and within 24 hours after a rainfall event of 0.5 inches or greater. Weekly written reports of all inspections must be maintained. The reports must contain the following information:

- a. Date, time, and exact place of inspection;
- b. Name(s) of individual(s) performing inspection;
- c. An assessment of the condition of erosion and sediment controls;
- d. A description of any erosion and sediment control implementation and maintenance performed;
- e. A description of the site's present phase of construction.

3. A **Certificate of Permit Coverage** must be posted in a conspicuous place on the construction site. The Certificate of Permit Coverage (WDNR Publication # WT-813) is enclosed for your use.

4. When construction activities have ceased and the site has undergone final stabilization, a Notice of Termination (NOT) of coverage under the general permit must be submitted to the Department.

It is important that you read and understand the terms and conditions of the general permit because they have the force of law and apply to you. Your project may lose its permit coverage if you do not comply with its terms and conditions. The Department may also withdraw your project from coverage under the general permit and require that you obtain an individual WPDES permit instead, based on the Department's own motion, upon the filing of a written petition by any person, or upon your request.

If you believe that you have a right to challenge this decision to grant permit coverage, you should know that the 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 ss. 227.52 and 227.53, Wis. 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 must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. 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. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. 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.

Thank you for your cooperation with the Construction Site Storm Water Discharge Permit Program. If you have any questions concerning the contents of this letter or the general permit, please contact me at (608) 275-3201.

Sincerely,



E. Dan Bekta, P.E.  
South Central Region  
Water Resources Engineer

ENCLOSURE: Certificate of Permit Coverage



# CERTIFICATE OF PERMIT COVERAGE

UNDER THE  
WPDES CONSTRUCTION SITE STORM WATER RUNOFF PERMIT  
Permit No. WI-S067831-05

Under s. NR 216.455(2), Wis. Adm. Code, landowners of construction sites with storm water discharges regulated by the Wisconsin Department of Natural Resources (WDNR) Storm Water Permit Program are required to post this certificate in a conspicuous place at the construction site. This certifies that the site has been granted WDNR storm water permit coverage. The landowner must implement and maintain erosion control practices to limit sediment-contaminated runoff to waters of the state in accordance with the permit.

## EROSION CONTROL COMPLAINTS

should be reported to the WDNR Tip Line at  
**1-800-TIP-WDNR (1-800-847-9367)**

Please provide the following information to the Tip Line:

WDNR Site No. (FIN): 61384

Site Name: Daybreak Foods Inc Pullet Waste Storage Facility

Address/Location: N5505 Crossman Road Town of LAKE MILLS

Additional Information:

Landowner: Daybreak Foods Inc Site

Landowner's Contact Person: Keith Kulow

Contact Telephone Number: (920) 648-2377

Permit Start Date: January 31, 2018

By:

E. D. Bekt



October 12, 2017

Keith Kulow  
Daybreak Foods Inc Site  
PO Box 800  
Lake Mills WI 53551

Re: Coverage Under WPDES General Permit No. WI-S067831-05: **Construction Site Storm Water Runoff**

Permittee Name: **Daybreak Foods Inc Site**  
Site Name: **Daybreak Foods Inc Poultry Facility 2**  
WDNR FIN: **60708**

Dear Mr. Kulow

The Wisconsin Department of Natural Resources received your Water Resources Application for Project Permits or Notice of Intent, on September 15, 2017, for **Daybreak Foods Inc Poultry Facility 2** and has evaluated the information provided regarding storm water discharges from your construction site. We have determined that your construction site activities will be regulated under ch. 283, Wis. Stats., ch. NR 216, Wis. Adm. Code, and in accordance with Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-S067831-05, Construction Site Storm Water Runoff. All erosion control and storm water management activities undertaken at the site must be done in accordance with the terms and conditions of the general permit.

The **Start Date** of permit coverage for this site is **October 12, 2017**. The maximum period of permit coverage for this site is limited to **3 years** from the **Start Date**. Therefore, permit coverage automatically expires and terminates 3 years from the Start Date and storm water discharges are no longer authorized unless another Notice of Intent and application fee to retain coverage under this permit or a reissued version of this permit is submitted to the Department 14 working days prior to expiration.

A copy of the general permit along with extensive storm water information including technical standards, forms, guidance and other documents is accessible on the Department's storm water program Internet site. To obtain a copy of the general permit, please download it and the associated documents listed below from the following Department Internet site:  
<http://dnr.wi.gov/topic/stormwater/construction/forms.html>

- Construction Site Storm Water Runoff WPDES general permit No. WI-S067831-05
- Construction site inspection report form
- Notice of Termination form

If, for any reason, you are unable to access these documents over the Internet, please contact me and I will send them to you.

To ensure compliance with the general permit, please read it carefully and be sure you understand its contents. Please take special note of the following requirements (This is not a complete list of the terms and conditions of the general permit.):

1. The Construction Site Erosion Control Plan and Storm Water Management Plan that you completed prior to submitting your permit application must be implemented and maintained throughout construction. Failure to do so may result in enforcement action by the Department.

2. The general permit requires that erosion and sediment controls be routinely inspected at least every 7 days, and within 24 hours after a rainfall event of 0.5 inches or greater. Weekly written reports of all inspections must be maintained. The reports must contain the following information:
  - a. Date, time, and exact place of inspection;
  - b. Name(s) of individual(s) performing inspection;
  - c. An assessment of the condition of erosion and sediment controls;
  - d. A description of any erosion and sediment control implementation and maintenance performed;
  - e. A description of the site's present phase of construction.
3. A **Certificate of Permit Coverage** must be posted in a conspicuous place on the construction site. The Certificate of Permit Coverage (WDNR Publication # WT-813) is enclosed for your use.
4. When construction activities have ceased and the site has undergone final stabilization, a Notice of Termination (NOT) of coverage under the general permit must be submitted to the Department.

It is important that you read and understand the terms and conditions of the general permit because they have the force of law and apply to you. Your project may lose its permit coverage if you do not comply with its terms and conditions. The Department may also withdraw your project from coverage under the general permit and require that you obtain an individual WPDES permit instead, based on the Department's own motion, upon the filing of a written petition by any person, or upon your request.

If you believe that you have a right to challenge this decision to grant permit coverage, you should know that the 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 ss. 227.52 and 227.53, Wis. 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 must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. 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. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. 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.

Thank you for your cooperation with the Construction Site Storm Water Discharge Permit Program. If you have any questions concerning the contents of this letter or the general permit, please contact me at (608) 275-3201.

Sincerely,



E. Dan Bekta, P.E.  
South Central Region  
Water Resources Engineer

ENCLOSURE: Certificate of Permit Coverage



# CERTIFICATE OF PERMIT COVERAGE

UNDER THE  
WPDES CONSTRUCTION SITE STORM WATER RUNOFF PERMIT  
Permit No. WI-S067831-05

Under s. NR 216.455(2), Wis. Adm. Code, landowners of construction sites with storm water discharges regulated by the Wisconsin Department of Natural Resources (WDNR) Storm Water Permit Program are required to post this certificate in a conspicuous place at the construction site. This certifies that the site has been granted WDNR storm water permit coverage. The landowner must implement and maintain erosion control practices to limit sediment-contaminated runoff to waters of the state in accordance with the permit.

## EROSION CONTROL COMPLAINTS

should be reported to the WDNR Tip Line at  
**1-800-TIP-WDNR (1-800-847-9367)**

Please provide the following information to the Tip Line:

WDNR Site No. (FIN): 60708

Site Name: Daybreak Foods Inc Poultry Facility 2

Address/Location: W8458 Creekwood Lane, Lake Mills Town of LAKE MILLS

Additional Information:

Landowner: Daybreak Foods Inc Site

Landowner's Contact Person: Keith Kulow

Contact Telephone Number: (920) 648-2377

Permit Start Date: October 12, 2017

By: E. D. Bekke

**State of Wisconsin**  
**DEPARTMENT OF NATURAL RESOURCES**  
PO Box 7185  
101 S. Webster Street  
Madison WI 53707-7185

Scott Walker, Governor  
Daniel L. Meyer, Secretary  
Telephone 608-266-2621  
FAX 608-267-3579  
TTY Access via relay - 711



November 2, 2017

FILE REF: R-2017-0177  
WPDES Permit #: WI-0056308  
Consulting Firm's ID: REA 170020.1

Mr. Bobby Harris  
Daybreak Foods, Inc. – Creekwood Farm  
PO Box 800  
Lake Mills, WI 53551

Mr. Bobby Harris:

Subject: Conditional Approval of Plans & Specifications for the closure of a waste storage facility at the production area of Daybreak Foods, Inc. – Creekwood Farms; SW ¼ of Sec. 27. T7N, R13E, Lake Mills Township, Jefferson County.

Dear Mr. Kulow:

The Office of External Services conditionally approves the above referenced plans and specifications, submitted by Robert Pofahl, P.E., of Resource Engineering Associates, Inc. and received on September 19, 2017, with additional information regarding an Artificial Wetland Exemption Determination, and protection of the wetland north of the waste storage facility closure received on November 2, 2017. The review was conducted in accordance with s. 281.41 Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The proposed construction is approved to commence for a period of two years from the approval date. If construction will commence after that time, a new written approval must be obtained. Questions may be directed to the regional office, or the review engineer Terry Donovan, DNR-Madison Office (contact information is at the end of this letter).

**Proposed Project:** Daybreak Foods, Inc. – Creekwood Farm is proposing to abandon an existing 900,000-gallon waste storage facility. The bottom footprint of the facility is 120 ft. x 250 ft. and was designed to have a depth of approximately 6.5 ft. The facility is an earthen lined storage facility that has not been used since 2010. The existing waste storage facility is located on the south side of the production area of Daybreak Foods Inc. – Creekwood Farm and was approved for construction in 1987. An Artificial Wetland Exemption Determination was conducted for the waste storage proposed for abandonment (Pond 1) and was determined that the facility is a waste water treatment facility (DNR Docket WIC-SC-2017-28-03119).

**Waste Storage Facility – Abandonment (existing)**

**Standard:** Design is in compliance with NRCS Standard 360

**Standard:** Design is in compliance with s. NR 243.17(7), Wis. Adm. Code

**Analysis:** The proposed waste storage abandonment will not reduce the facility's number of days of storage from the current available storage volume. The abandonment of the waste storage facility is approved, but has not been reviewed. The waste storage facility abandonment is still subject to the requirements of ch. NR 243, Wis. Adm. Code, applicable Wis. Adm. Codes, and all applicable technical standards.

As a condition of approval, the post-construction documentation for this project (R-2010-0177) is required to contain the calculation for the days of storage for the operation under the management procedures in place at the time of abandonment. The abandonment shall also provide protection to the wetland north of the construction site to preserve the functional value of the wetland.

**Conditions of Approval:** The plans and specifications for project number R-2010-0177 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

**Operation:**

1. **Storage Capacity:** A minimum 180 days of on-site storage (s. NR 243.15(3)) shall be maintained for liquid manure and wastewater generated, plus any digester substrates accepted by the farm.

**Construction:**

2. **Notification:** Prior to construction and when construction is complete, notify the DNR regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
3. **Wetland Protection:** Equipment entry into the wetland to the north of the facility shall be prohibited and erosion protection best management practices shall be implemented to protect the wetland functional value from any impacts of construction activity.
4. **Inspection:** A competent resident inspector, provided by the owner or its consultant, shall be present during all construction of critical components and continuously for concrete placement around waterstop. *The inspector shall not be the owner, employee of the owner or employed by the construction contractors.*
5. **Post-Construction Documentation:** Within 60 days of completing construction, submit to the DNR's e-permitting website (<http://dnr.wi.gov/permits/water>) the post-construction report and send one paper copy to the DNR's regional contact. The report shall include the requirements within s. NR 243.15(10) Wis. Adm. Code and a.-c, below.
  - a. A statement certifying that construction conforms with the following:
    - i. s. NR 243.15, Wis. Adm. Code; and
    - ii. NRCS standards 360 Waste Storage Closure
    - iii. All applicable Wisconsin Construction Specification
  - b. The inspector's certification that inspection conformed with the approved inspection plan, NRCS standards and Wisconsin construction specifications in a. (above), along with a copy of the Inspection Log showing each inspection date and corresponding items inspected.
  - c. Documentation required in either i. or ii. below:
    - i. If no changes from approved plans, certification for a. above shall be accompanied by the following statement: Construction fully conforms with the approved plans and specifications.
    - ii. If changes from approved plans, certification for a. above shall be accompanied by the following:
      - (1) Summary of changes and description of how design conditions were met, if any.
      - (2) A statement that construction substantially conforms with the approved plans and specifications.
      - (3) Each drawing sheet or text page that must be revised to reflect changes as constructed.
      - (4) Design change approval documentation. (Note: Design change without prior approval is a violation of ch. NR 243 and the WPDES Permit. Direct questions to the DNR review engineer.)

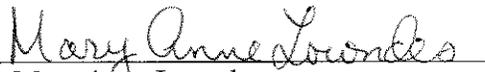
**Limitation of Approval:** The DNR reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a DNR determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Assessment that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services (formerly Department of Commerce) or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

**Appeal Notice:** If you believe that you have a right to challenge this decision, you should know that the 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 ss. 227.52 and 227.53,

**Appeal Notice:** If you believe that you have a right to challenge this decision, you should know that the 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 ss. 227.52 and 227.53, Wis. 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 must name the Department of Natural Resources as the respondent. To request a contested case hearing pursuant to s. 227.42, Wis. 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. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary

  
Mary Anne Lowndes  
Chief, Runoff Management Section  
Bureau of Watershed Management

email: Robert Pofahl, P.E.  
(608) 831-5522; [bob@reaeng.com](mailto:bob@reaeng.com)

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January 25, 2018

FILE REF: R-2017-0205  
WPDES Permit #: WI-0056308

Keith Kulow  
Daybreak Foods, Inc.  
533 E. Tyrannena Park Road  
Lake Mills, WI 53551

**Subject:** Conditional Approval of Plans & Specifications for a proposed Poultry Pullet Waste Storage Facility at, Daybreak Foods, Inc. the Poultry Layer Facility is in the SW ¼, Section 27; T7N, R13E, (N5505 Crossman Road) Lake Mills Township, Jefferson County

Dear Mr. Kulow:

The Division of External Services conditionally approves the above referenced plans and specifications, submitted by Robert Pofahl, P.E., Resource Engineering Associates, Inc. and received on October 27, 2017 with revisions received on December 8, 2017 and January 9, 2018. The review was conducted in accordance with s. 281.41 Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. Construction is approved to commence for a period of two years from the approval date. If work will commence later, or will occur over a longer period without continuous work (other than due to weather) a new written approval must be obtained. Questions may be directed to the regional office, or the review engineer Terry Donovan, DNR Madison Office (contact information is at the end of this letter).

**Note:** The Creekwood Farm production area for Daybreak Foods, Inc. is in the midst of major modifications. It is anticipated that additional structures and modifications to existing structures will occur at this site beyond the proposed changes presented in this submittal (R-2017-0205). This review and conditional approval pertains to and is limited to the waste transfer systems in the proposed pullet housing structures and the proposed waste storage facility servicing the proposed pullet housing facilities located west of Crossman Road as presented in the "Design Report – Waste Storage Facility (Pullets)".

**Geographical Area:** Geographical features of the site include soils that are Bover sandy loam, and Materton silt loam. The nearest stream is a perennial stream (Rock Creek) over 4,000 ft. to the east of the proposed site. There are two wetlands that were delineated near the site location (a wetland delineation was conducted by an assured delineator and a report was included in the submitted material). A wetland (approximately 14.5 acres in area) is located 40 ft. to the east of proposed Pullet House 2, 50 ft. southeast of proposed Pullet House 3, and approximately 100 feet to the north of the proposed waste storage facility (P-WSF-17). One additional delineated wetland (approximately 0.1 acres in area) is located approximately 250 ft. to the south of proposed Pullet House 1. No known karst features exist within 1,000 ft. of the proposed facilities or systems. No ground water supply wells are located within 250 feet of the proposed facilities or systems.

**Proposed Project:** Daybreak Food, Inc. is proposing to construct three new pullet housing facilities (Pullet House 1, Pullet House 2, and Pullet House 3) to accommodate an anticipated 0.6 million additional poultry pullets (total population at the pullet production area is anticipated to be 0.75 million pullets when utilizing an additional existing pullet house and fully when all pullet housing facilities are fully populated). Pullet manure conveyor systems are incorporated into the planned housing design and

serve as a manure drying system and manure transfer system to remove waste from the housing structures. The manure conveyor system will transfer pullet manure from the poultry housing facilities to an enclosed poultry waste loading pad at the end of each housing structure. At the loading pad the waste will be loaded on to a manure truck or waste wagon with tractor. Waste will then be transported to the proposed pullet waste storage facility (P-WSF-17) for long term storage. The storage capacity of P-WSF-17 is estimated to be 367 days when the pullet housing facilities are fully populated. At capacity, the population will be approximately 0.75 million chickens (3,750 animal units).

Surface runoff will be diverted away from contacting feed and manure handling areas and other pollutant sources by stormwater conveyance systems that will divert runoff around the perimeter of the housing facilities and P-WSF-17.

#### **Waste Storage New**

Standard: The proposed design was submitted in accordance with NRCS Standard 522, Table 3. (pub. October 2017), and NRCS Standard 313 (pub. October 2017)

Standard: Design is in compliance with s. NR 243.15(3), Wis. Adm. Code.

#### **Analysis:**

The following design was submitted for review. The proposed rectangular waste storage designated as (P-WSF-17) is a liquid tight reinforced concrete structure that will be used as a solid waste stacking structure to store dried chicken manure. A pre-engineered metal building (PEMB) will be constructed on top of the walled structure. The PEMB is used to shelter the stored waste from precipitation that will be placed in the facility. The P-WSF-17 floor has inside wall dimensions of 140 ft. x 305 ft. The outside dimensions of the structure (including the surrounding walls) are 142 ft. x 307 ft. The floor has a thickness of 8-in. with a compacted gravel sub-base 6-in. thick. Areas near the walls have a base floor thickness of 12-in. The base walls of structure are constructed as liquid tight reinforced concrete with a thickness of 12-in. and having a height of 12-ft.

Five soil tests were taken in or within 100 ft. of the footprint of the facility area. No bedrock was encountered to a depth equal to or exceeding 9.0 ft. below the designed floor surface of P-WSF-17. Saturation was encountered approximately 3.5 ft. below the top of the designed floor surface of P-WSF-17.

#### **Waste Transfer System -: New Pullet Manure Conveyor System**

Standard: Pullet Manure Conveyor is designed in accordance with NRCS 522 (Oct. 2017)

Standard: Design is in compliance with s. NR 243.15(4), Wis. Adm. Code

**Analysis:** The following design was submitted for review. The pullet manure conveyors are contained on the north end of the proposed Pullet House 1 and 2 and on the northwest end of Pullet House 3. The conveyors provide transfer of waste from the pullet housing to a loading pad. The manure collection and conveyor system is located above liquid tight reinforced concrete flooring and is designed in accordance with NRCS 522 (Oct. 2017) criteria. At the loading pad waste is then transported to P-WSF-17 via a waste wagon with tractor or a manure truck.

Six soil borings were taken within the footprint or within 100 feet of the footprint of the conveyor system for Pullet House 1 and 2. The six soil test were taken for Pullet Houses 1 and 2 (three for each structure). No bedrock or saturation was encountered to a depth greater than 9 ft.

There were no soil borings or soil tests provided in the submittal for Pullet House 3. As condition of approval construction of this housing facility may not be initiated until a minimum of two soil test pits or soil borings are submitted to and approval for initiation construction is received by the Department.

Note: the submitted plans and specifications for this project states (on page 5, second to the last paragraph of the Design Report – Waste Storage Facility Pullets) that the conveyor belt system for the proposed layer production area is believed to not be a reviewable facility. Due the size and quantity of the waste manure, the WDNR has determined that this system is subject to review.

**Conditions of Approval:** The plans and specifications for project number R-2017-0205 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

**Construction:**

1. **Notification:** Prior to construction and when construction is complete, notify the DNR regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
2. **Soils Information:** Prior to construction of Pullet House 3:
  - a. a minimum of two soil test pits or soil borings shall be taken in the footprint or within 100 feet of the proposed structure,
  - b. the results be provided to the Department for review, and
  - c. Daybreak Foods shall receive Department approval to proceed with construction.
3. **Inspection:** During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
4. **Post-Construction Documentation:** Within 60 days of completing construction, submit to the DNR's e-Permitting website (<http://dnr.wi.gov/permits/water>) the post-construction report and send one paper copy to the DNR's regional contact. The report shall include the requirements within s. NR 243.15(10) and ch. NR 108, Wis. Adm. Code.

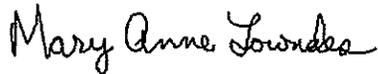
**Limitation of Approval:** The DNR reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a DNR determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services (formerly Department of Commerce) or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

**Appeal Notice:** If you believe that you have a right to challenge this decision, you should know that the 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 ss. 227.52 and 227.53, Wis. 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 must name the Department of Natural Resources as the respondent. To request a contested case hearing pursuant to s. 227.42, Wis. 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. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code.

The filing of a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary



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Mary Anne Lowndes  
Chief, Runoff Management Section  
Bureau of Watershed Management



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Terry Donovan  
Engineer, Runoff Management Section  
Bureau of Watershed Management

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January 22, 2018

FILE REF: R-2017-0206  
WPDES Permit #: WI-0056308

Keith Kulow  
Daybreak Foods, Inc.  
533 E. Tyrannena Park Road  
Lake Mills, WI 53551

Subject: Conditional Approval of Plans & Specifications for a proposed Poultry Layer Facility at, Daybreak Foods, Inc. the Poultry Layer Facility is in the SE ¼, Section 27; T7N, R13E, (N5505 Crossman Road) Lake Mills Township, Jefferson County

Dear Mr. Kulow:

The Division of External Services conditionally approves the above referenced plans and specifications, submitted by Robert Pofahl, P.E., Resource Engineering Associates, Inc. and received on October 27, 2017 with revisions received on December 8, 2017 and January 9, 2018. The review was conducted in accordance with s. 281.41 Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. Construction is approved to commence for a period of two years from the approval date. If work will commence later, or will occur over a longer period without continuous work (other than due to weather) a new written approval must be obtained. Questions may be directed to the regional office, or the review engineer Terry Donovan, DNR Madison Office (contact information is at the end of this letter).

Note: The Creekwood Farm production area for Daybreak Foods, Inc. is in the midst of major modifications. It is anticipated that additional structures and modifications to existing structures will occur at this site beyond the proposed changes presented in this submittal (R-2017-0206). This review and conditional approval pertains to and is limited to the waste transfer systems and waste storage facility servicing the proposed layer housing facilities located east of Crossman Road as presented in the "Design Report – Waste Storage Facility (Layers)".

**Geographical Area:** Geographical features of the site include soils that are Fox silt loam and Casco loam. The nearest stream is a perennial stream (Rock Creek) over 2500 ft. to the east of the proposed site. The nearest wetland is a delineated wetland approximately 100 feet to the east of the proposed construction area. No known karst features exist within 1,000 ft. of the proposed facilities or systems. No ground water supply wells are located within 250 feet of the proposed facilities or systems.

**Proposed Project:** Daybreak Food, Inc. is proposing to construct five new poultry housing facilities to accommodate an anticipated 2.0 million poultry layers. Poultry manure conveyor systems are incorporated into the planned housing design and serve as a manure drying system and manure transfer system. The manure conveyor system will transfer poultry manure from the poultry housing facilities to an enclosed poultry waste stacking pad (waste storage facility, WSF-2017) that will be constructed to contain poultry manure produced from the housing facilities. The storage capacity after the proposed waste storage facility is constructed is estimated to be 397 days when the layer housing facilities are fully populated (at capacity the population will be approximately 2.0 million chickens (10,000 animal units).

Surface runoff will be diverted away from contacting feed and manure handling areas and other pollutant sources by stormwater conveyance systems that will divert runoff around the perimeter of the housing complex and by collecting rooftop runoff between housing facilities and directing this liquid to a storm water pond southeast of the proposed production area.

**Waste Storage New**

**Standard:** The proposed design was submitted in accordance with NRCS Standard 522, Table 3. (pub. October 2017), and NRCS Standard 313 (pub. October 2017)

**Standard:** Design is in compliance with s. NR 243.15(3), Wis. Adm. Code.

**Analysis:**

The following design was submitted for review. The proposed rectangular waste storage designated as Solid-WSF-2017 is a liquid tight reinforced concrete structure that will be used as a solid waste stacking structure to store dried chicken manure. The facility has two components a concrete solid waste stacking and storage structure, and a pre-engineered metal building (PEMB) to shelter the waste storage and contained waste from precipitation. The concrete structure will have three liquid tight reinforced concrete walls 16 ft. high (2 walls 180 ft. long on the north and south ends, and one by 565 ft. long on the east). The Solid-WSF-2017 is intended to have an estimated dry poultry manure storage capacity of 1,740,200 cu.ft. or approximately 397 days of storage when the layer housing structures are fully populated. The 16-ft. high walls will be 14-in. thick. The west side of the storage structure will have a total length of 565 ft. long. The west wall will be constructed of reinforced concrete 6-ft. high and 10-in. thick with three 20-foot wide gaps with drive-over curbs 9-in. high to allow for equipment access. The west wall has a 20-ft. separation from the 16-ft. high storage wall on the north and south ends to allow for equipment access. The floor of the proposed structure is constructed of liquid tight reinforced concrete with a thickness of 8-in., with increased footing thickness of 18-in. to support the walls. The floor area has a 6-in. compacted gravel sub-base below the floor and footing areas. The floor has been designed to support anticipated equipment loads.

The PEMB will be constructed 710 ft. long north to south and 218.5 ft. wide east to west and is designed to shelter the Solid-WSF-2017 from precipitation. The PEMB wall on the west side is approximately 45 ft. high and the east wall is approximately 24 ft. high. Walls of the PEMB on the north and south vary in height to meet and connect to the top of the east and west walls. Eleven soil borings were taken within the footprint and within 100 feet of Solid-WSF-2017 and indicate bedrock and groundwater separation of 8-ft. or greater will be maintained between the floor surface and bedrock and groundwater.

**Waste Transfer System -:** New Poultry Manure Conveyor System

**Standard:** Poultry Manure Conveyor is designed in accordance with NRCS 522 (Oct. 2017)

**Standard:** Design is in compliance with s. NR 243.15(4), Wis. Adm. Code

**Analysis:** The following design was submitted for review. The Poultry Manure Conveyors are contained on the east end of the proposed Poultry Housing buildings and provide transfer of waste from the poultry housing to the proposed Solid-WSF-2017 facility. The main conveyor systems collect poultry manure on the east end of the poultry housing structures. The manure collection and conveyor system is located above liquid tight reinforced concrete flooring and is designed in accordance with NRCS 522 (Oct. 2017) criteria. The conveyance system that transfers waste from the poultry housing to the Solid-WSF-2017 structure are located in liquid tight reinforced concrete channels 5-ft. wide by 6-ft. deep and are designed consistent with NRCS 634 (12/05). Soil borings were taken within the footprint and within 100 feet of the channel and indicate bedrock and groundwater separation of 8-ft. or greater to the transfer system will be maintained.

Note: the submitted plans and specifications for this project states (on page 5, second to the last paragraph of the Design Report – Waste Storage Facility Layers) that the conveyor belt system for the proposed layer production area is believed to not be a reviewable facility. Due the size and quantity of the waste manure, the WDNR has determined that this system is subject to review.

**Conditions of Approval:** The plans and specifications for project number R-2017-0206 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

**Construction:**

1. **Notification:** Prior to construction and when construction is complete, notify the DNR regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
2. **Inspection:** During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
3. **Post-Construction Documentation:** Within 60 days of completing construction, submit to the DNR's e-Permitting website (<http://dnr.wi.gov/permits/water>) the post-construction report and send one paper copy to the DNR's regional contact. The report shall include the requirements within s. NR 243.15(10) and ch. NR 108, Wis. Adm. Code.

**Limitation of Approval:** The DNR reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a DNR determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services (formerly Department of Commerce) or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

**Appeal Notice:** If you believe that you have a right to challenge this decision, you should know that the 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 ss. 227.52 and 227.53, Wis. 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 must name the Department of Natural Resources as the respondent. To request a contested case hearing pursuant to s. 227.42, Wis. 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. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary



Mary Anne Lowndes  
Chief, Runoff Management Section  
Bureau of Watershed Management



Terry Donovan  
Engineer, Runoff Management Section  
Bureau of Watershed Management

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Terry Donovan  
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January 25, 2018

FILE REF: R-2017-0205  
WPDES Permit #: WI-0056308

Keith Kulow  
Daybreak Foods, Inc.  
533 E. Tyrannena Park Road  
Lake Mills, WI 53551

**Subject:** Conditional Approval of Plans & Specifications for a proposed Poultry Pullet Waste Storage Facility at, Daybreak Foods, Inc. the Poultry Layer Facility is in the SW ¼, Section 27; T7N, R13E, (N5505 Crossman Road) Lake Mills Township, Jefferson County

Dear Mr. Kulow:

The Division of External Services conditionally approves the above referenced plans and specifications, submitted by Robert Pofahl, P.E., Resource Engineering Associates, Inc. and received on October 27, 2017 with revisions received on December 8, 2017 and January 9, 2018. The review was conducted in accordance with s. 281.41 Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. Construction is approved to commence for a period of two years from the approval date. If work will commence later, or will occur over a longer period without continuous work (other than due to weather) a new written approval must be obtained. Questions may be directed to the regional office, or the review engineer Terry Donovan, DNR Madison Office (contact information is at the end of this letter).

**Note:** The Creekwood Farm production area for Daybreak Foods, Inc. is in the midst of major modifications. It is anticipated that additional structures and modifications to existing structures will occur at this site beyond the proposed changes presented in this submittal (R-2017-0205). This review and conditional approval pertains to and is limited to the waste transfer systems in the proposed pullet housing structures and the proposed waste storage facility servicing the proposed pullet housing facilities located west of Crossman Road as presented in the "Design Report – Waste Storage Facility (Pullets)".

**Geographical Area:** Geographical features of the site include soils that are Bover sandy loam, and Materton silt loam. The nearest stream is a perennial stream (Rock Creek) over 4,000 ft. to the east of the proposed site. There are two wetlands that were delineated near the site location (a wetland delineation was conducted by an assured delineator and a report was included in the submitted material). A wetland (approximately 14.5 acres in area) is located 40 ft. to the east of proposed Pullet House 2, 50 ft. southeast of proposed Pullet House 3, and approximately 100 feet to the north of the proposed waste storage facility (P-WSF-17). One additional delineated wetland (approximately 0.1 acres in area) is located approximately 250 ft. to the south of proposed Pullet House 1. No known karst features exist within 1,000 ft. of the proposed facilities or systems. No ground water supply wells are located within 250 feet of the proposed facilities or systems.

**Proposed Project:** Daybreak Food, Inc. is proposing to construct three new pullet housing facilities (Pullet House 1, Pullet House 2, and Pullet House 3) to accommodate an anticipated 0.6 million additional poultry pullets (total population at the pullet production area is anticipated to be 0.75 million pullets when utilizing an additional existing pullet house and fully when all pullet housing facilities are fully populated). Pullet manure conveyor systems are incorporated into the planned housing design and

serve as a manure drying system and manure transfer system to remove waste from the housing structures. The manure conveyor system will transfer pullet manure from the poultry housing facilities to an enclosed poultry waste loading pad at the end of each housing structure. At the loading pad the waste will be loaded on to a manure truck or waste wagon with tractor. Waste will then be transported to the proposed pullet waste storage facility (P-WSF-17) for long term storage. The storage capacity of P-WSF-17 is estimated to be 367 days when the pullet housing facilities are fully populated. At capacity, the population will be approximately 0.75 million chickens (3,750 animal units).

Surface runoff will be diverted away from contacting feed and manure handling areas and other pollutant sources by stormwater conveyance systems that will divert runoff around the perimeter of the housing facilities and P-WSF-17.

#### **Waste Storage New**

Standard: The proposed design was submitted in accordance with NRCS Standard 522, Table 3. (pub. October 2017), and NRCS Standard 313 (pub. October 2017)

Standard: Design is in compliance with s. NR 243.15(3), Wis. Adm. Code.

#### **Analysis:**

The following design was submitted for review. The proposed rectangular waste storage designated as (P-WSF-17) is a liquid tight reinforced concrete structure that will be used as a solid waste stacking structure to store dried chicken manure. A pre-engineered metal building (PEMB) will be constructed on top of the walled structure. The PEMB is used to shelter the stored waste from precipitation that will be placed in the facility. The P-WSF-17 floor has inside wall dimensions of 140 ft. x 305 ft. The outside dimensions of the structure (including the surrounding walls) are 142 ft. x 307 ft. The floor has a thickness of 8-in. with a compacted gravel sub-base 6-in. thick. Areas near the walls have a base floor thickness of 12-in. The base walls of structure are constructed as liquid tight reinforced concrete with a thickness of 12-in. and having a height of 12-ft.

Five soil tests were taken in or within 100 ft. of the footprint of the facility area. No bedrock was encountered to a depth equal to or exceeding 9.0 ft. below the designed floor surface of P-WSF-17. Saturation was encountered approximately 3.5 ft. below the top of the designed floor surface of P-WSF-17.

#### **Waste Transfer System -: New Pullet Manure Conveyor System**

Standard: Pullet Manure Conveyor is designed in accordance with NRCS 522 (Oct. 2017)

Standard: Design is in compliance with s. NR 243.15(4), Wis. Adm. Code

**Analysis:** The following design was submitted for review. The pullet manure conveyors are contained on the north end of the proposed Pullet House 1 and 2 and on the northwest end of Pullet House 3. The conveyors provide transfer of waste from the pullet housing to a loading pad. The manure collection and conveyor system is located above liquid tight reinforced concrete flooring and is designed in accordance with NRCS 522 (Oct. 2017) criteria. At the loading pad waste is then transported to P-WSF-17 via a waste wagon with tractor or a manure truck.

Six soil borings were taken within the footprint or within 100 feet of the footprint of the conveyor system for Pullet House 1 and 2. The six soil test were taken for Pullet Houses 1 and 2 (three for each structure). No bedrock or saturation was encountered to a depth greater than 9 ft.

There were no soil borings or soil tests provided in the submittal for Pullet House 3. As condition of approval construction of this housing facility may not be initiated until a minimum of two soil test pits or soil borings are submitted to and approval for initiation construction is received by the Department.

Note: the submitted plans and specifications for this project states (on page 5, second to the last paragraph of the Design Report – Waste Storage Facility Pullets) that the conveyor belt system for the proposed layer production area is believed to not be a reviewable facility. Due the size and quantity of the waste manure, the WDNR has determined that this system is subject to review.

**Conditions of Approval:** The plans and specifications for project number R-2017-0205 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

**Construction:**

1. **Notification:** Prior to construction and when construction is complete, notify the DNR regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
2. **Soils Information:** Prior to construction of Pullet House 3:
  - a. a minimum of two soil test pits or soil borings shall be taken in the footprint or within 100 feet of the proposed structure,
  - b. the results be provided to the Department for review, and
  - c. Daybreak Foods shall receive Department approval to proceed with construction.
3. **Inspection:** During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
4. **Post-Construction Documentation:** Within 60 days of completing construction, submit to the DNR's e-Permitting website (<http://dnr.wi.gov/permits/water>) the post-construction report and send one paper copy to the DNR's regional contact. The report shall include the requirements within s. NR 243.15(10) and ch. NR 108, Wis. Adm. Code.

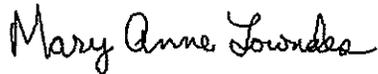
**Limitation of Approval:** The DNR reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a DNR determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services (formerly Department of Commerce) or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

**Appeal Notice:** If you believe that you have a right to challenge this decision, you should know that the 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 ss. 227.52 and 227.53, Wis. 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 must name the Department of Natural Resources as the respondent. To request a contested case hearing pursuant to s. 227.42, Wis. 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. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code.

The filing of a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary



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Mary Anne Lowndes  
Chief, Runoff Management Section  
Bureau of Watershed Management



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Terry Donovan  
Engineer, Runoff Management Section  
Bureau of Watershed Management

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September 11, 2019

FILE REF: R-2018-0032  
WPDES Permit #: WI-0056308

Bobby Harris  
Daybreak Foods, Inc.  
PO Box 800  
Lake Mills, WI 53551

Subject: Conditional Approval Modification of Plans & Specifications for a Process Wastewater Transfer System, at Daybreak Foods Creekwood Farm (Poultry Layer Facility), SW¼, Sec. 27, T7N, R13E, Lake Mills Township, Jefferson County

Dear Mr. Harris:

The Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the proposed modification to the plans and specifications approval dated June 4, 2018, Project # R-2018-0032. The proposed modification was submitted by Robert Pofahl, PE., Resource Engineering Associates (REA), and was received on September 11, 2019. The proposed modification was deemed sufficiently minor that submittal was not required via the Department's e-Permitting System. The Department will add the modification documents to the project file in the e-Permitting System.

The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. Information provided below describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff, or the review engineer Gretchen Wheat (contact information is at the end of this letter).

**Proposed Modification:** The proposed modification meets NRCS 634 (1/14), and complies with s. NR 243.15(4), Wis. Adm. Code. The proposed modification is for placing a section of the pipe within a concrete pipe chase, and using sand for the bedding of the section of pipe that is placed within the concrete pipe chase. The modification is further summarized as follows:

- The pipe section that will be placed within a concrete pipe chase is the pipe section that will cross under a public road (Crossman Rd.), and extend 1 foot beyond each side of the road.
- The modification was proposed to comply with a request from the Town, as part of Daybreak Foods obtaining an easement under Crossman Rd. The intent of the modification is to prevent the need to dig up the road in the future, in the event that the pipe section under the road would need to be repaired or replaced.
- At the location where the pipe will cross under Crossman Rd., the road is identified as 66 feet wide, and the total length of pipe proposed to be installed within a concrete chase is approximately 68 feet.

**Conditions of Approval:** The plans and specifications for project number R-2018-0032 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

1. **Revisions:** If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. **Note:** This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
2. **Previous Approval:** The approval dated June 4, 2018, for Project # R-2018-0032, remains in force, except in lieu of installing all portions of the underground pipe in accordance with Details 1/C402 or 2/C402 of the approved drawing package dated April 17, 2018, the pipe section that crosses under Crossman Rd. may be installed within a concrete pipe chase and bedded with sand.
3. **Approval Period:** In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the original approval date of June 4, 2018, the approval is void, and a new approval must be obtained prior to commencing construction.

4. **Notification:** Prior to construction and when construction is complete, notify the Department's regional contact and county contact (contact information is at the end of this letter).
5. **Inspection:** During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
6. **Post-Construction Documentation:** In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (<http://dnr.wi.gov/permits/water>) within 60 days of completing construction. The report shall include the documentation specified by s. NR 243.15(10), Wis. Adm. Code, and a detail drawing showing how the modified pipe section was installed.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

#### NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the 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 WIS. STAT. §§ 227.52 and 227.53, 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 must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to WIS. STAT. § 227.42, 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. All requests for contested case hearings must be made in accordance with WIS. ADMIN. CODE § NR 2.05(5), and served on the Secretary in accordance with WIS. ADMIN. CODE § NR 2.03. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary




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Mary Anne Lowndes  
Chief, Runoff Management Section  
Watershed Management Program




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Gretchen Wheat, P.E.  
Water Resources Engineer  
Runoff Management Section

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April 6, 2020

FILE REF: R-2020-0018  
WPDES Permit #: WI-0056308

Keith Kulow  
Daybreak Foods Creekwood Cage Free  
PO Box 800  
Lake Mills, WI 53551

Subject: Conditional Approval of Plans & Specifications for a compost building abandonment at, Daybreak Foods Creekwood Cage Free at SW¼, Sec 27, T7N, R13E, Lake Mills Township, Jefferson County

Dear Mr. Kulow:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced plans and specifications, submitted under certification by Robert Pofahl, REA, Inc. and received on February 6, 2020. The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The engineering report below describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff, or the review engineer Jeff Kreider (contact information is at the end of this letter).

**Proposed Project:** The proposed project includes the following facilities that are reviewable under s. NR 243.15, Wis. Adm. Code: The three existing compost buildings abandonment was submitted to meet NRCS 360 (5/18) and s. NR 243.17(7), Wis. Adm. Code. All content in the compost buildings will be emptied and sold as commercial fertilizer. Soils around the area will be investigated for contamination, with contaminated soils being spread according to an approved nutrient management plan. The buildings will be demolished and disposed of. The area will be converted to a gravel pad to be used a potential machine shed. The plan is in compliance with s. NR 243.17(7), Wis. Adm. Code.

**Conditions of Approval:** The plans and specifications for project number R-2020-0018 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

1. **Revisions:** If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. **Note:** This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
2. **Approval Period:** In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.
3. **Notification:** Prior to construction and when construction is complete, notify the Department's regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
4. **Inspection:** During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
5. **Post-Construction Documentation:** In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (<http://dnr.wi.gov/permits/water>) within 60 days of completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

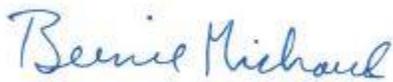
**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website <http://www.revenue.wi.gov/>.

### NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the 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 WIS. STAT. §§ 227.52 and 227.53, 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 must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to WIS. STAT. § 227.42, 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. All requests for contested case hearings must be made in accordance with WIS. ADMIN. CODE § NR 2.05(5), and served on the Secretary in accordance with WIS. ADMIN. CODE § NR 2.03. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary




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Bernie Michaud, P.E.  
CAFO Engineering Supervisor  
Watershed Management Program




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Tony Salituro  
Intern Engineer

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May 13, 2019

FILE REF: R-2017-0213  
WPDES Permit #: WI-0056308

Keith Kulow  
Daybreak Foods, Inc. - Creekwood Farm  
PO Box 800  
Lake Mills, WI 53551

Subject: Evaluation Review for Daybreak Foods, Inc. - Creekwood Farm, (N5505 Crossman Rd, Lake Mills), Sec 27, T07N, R13E, Lake Mills Township, Jefferson County – NO ADDITIONAL ACTION

Dear Mr. Kulow:

This letter is to inform you that the Department received an evaluation for the compost buildings, submitted under certification by Robert Pofahl, PE, Resource Engineering and Associates, Inc. on behalf of Daybreak Foods, Inc. - Creekwood Farm. The original evaluation review letter on February 27, 2019 was in response to the evaluation received on November 14, 2017 and reviewed on April 5, 2018. Robert Pofahl, PE evaluated the facilities listed below based on applicable NRCS Standards and ch. NR 243 Wis. Adm. Code. On April 19, 2019 Robert Pofahl submitted via email four documents in response to the evaluation review letter providing additional information.

In accordance with s. 243.16(1), Wis. Adm. Code, when submitting an evaluation for an existing facility the evaluation shall include, at a minimum, the following information:

- (a) A narrative providing general background and operational information on existing facilities and systems.
- (b) Available post-construction documentation including the date and materials of construction.
- (c) For facilities or systems that are part of the production area, an assessment of the ability of the facility or system to meet the production area requirements in s. NR 243.13, the adequate storage requirement under s. NR 243.14 (9), and accepted management practices.
- (d) An assessment of the ability of the facility or system to meet the applicable design requirements identified in s. NR 243.15.
- (e) Any proposed actions to address issues identified as part of the evaluation.

The Department has reviewed the Daybreak Foods, Inc. - Creekwood Farm evaluation and additional documentation for the reviewable facilities listed below and finds that they meet the requirements for submission listed above. Robert Pofahl's conclusion of the evaluation is that the reviewable facilities listed below meet the ch. NR 243 requirements. The Department has found sufficient details to justify the conclusion.

**Compost Barns F1, F2 and F3:** Each roofed compost building is 60 ft x 500 ft and is used to compost chicken and pullet manure. The buildings F1, F2 and F3 were constructed in 1993, 1993 and 1999 respectively. The manure stored is dry. Maintenance activities for the buildings must ensure that water from storm events do not enter the building.

- Composting Barns F1 and F2: In accordance with s. NR 243.16(1)(e), the documentation submitted to the Department states the barns will be decommissioned in July 2020 and used as machine sheds and emergency solid manure storage.
  - So long as the barns may be used for solid manure storage permanently or for emergencies, the buildings must be maintained as a solid manure storage facility and cannot be abandoned. They may be used as machine sheds.

- The additional documentation clarified that the large cracks were actually construction joints. This was a misunderstanding during the review process. The 0.5-inch cracks noted within the April 2, 2019 review letter was incorrect. There is no issue with cracks.
- Composting Barn F3: In accordance with s. NR 243.16(1)(e), the response letter states that the barn will be removed, and no maintenance activities were included within the letter.
  - An abandonment plan in accordance with s. NR 243.17(7), must be submitted for Department approval before the composting barn is removed.

Should you have any questions, please contact Jeff Kreider, DNR Madison office or your regional CAFO Specialist.

**NOTICE OF APPEAL RIGHTS**

If you believe that you have a right to challenge this decision, you should know that the 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 WIS. STAT. §§ 227.52 and 227.53, 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 must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to WIS. STAT. § 227.42, 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. All requests for contested case hearings must be made in accordance with WIS. ADMIN. CODE § NR 2.05(5), and served on the Secretary in accordance with WIS. ADMIN. CODE § NR 2.03. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES



Mary Anne Lowndes  
Chief, Runoff Management Section  
Watershed Management Program



Jeff Kreider  
Water Resources Engineer  
Watershed Management Program

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October 16, 2019

Jefferson County  
Approval

Keith Kulow  
Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood  
N5505 Crossman Rd  
Lake Mills, WI 53551

SUBJECT: Conditional Approval of Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood  
Nutrient Management Plan, WPDES Permit No. 0056308-06-0

Dear Mr. Kulow:

After completing a review of Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood 2018-2022 Nutrient Management Plan (NMP) the Wisconsin Department of Natural Resources (Department) is providing conditional approval that it is consistent with s. NR 243.14, Wis. Adm. Code. This part of your WPDES permit application is now ready for the public notice and comment process as required by Ch. 283 Stats.

Before applying manure onto approved fields each season, the Department recommends Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood review the NMP with those individuals involved with manure applications to ensure all remain familiar with the approved manure spreading protocol, spreading maps, field and map verification, record keeping requirements, and all the conditions of this approval. Specifically, some fields in Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood may have:

- Soils that may have bedrock or groundwater within 24 inches of surface,
- Multiple setback areas due to streams, conduits to streams, grassed waterways, wetlands or wells, and
- Evidence of possible soil erosion/flow channels. Note: road ditches or other man made channels may be considered flow channels or conduits to navigable water and may be subject to a SWQMA and setback.

Reviewing the NMP and checking fields for these features and soil conditions prior to manure applications will help Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood maintain compliance with their WPDES permit and Ch. NR 243 requirements.

This Nutrient Management Plan includes an 'Alternative Distribution Plan' which is approved as part of this conditional approval. The following language is for manure and process wastewater that will not be distributed to AgriNatural Grower Supply and will be land applied by Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood.

### FINDINGS OF FACT

The Department confirms that:

1. At the time of the Nutrient Management Plan submittal the poultry flock size was 11,218 animal units (912,000 Coop Size Layers and 155,000 Pullets). A planned flock size of 24,600 animal units (2,000,000 Coop Size Layers and 800,000 Pullets) will be obtained during the permit term.

2. At the time of the Nutrient Management Plan submittal, manure generation and spreading records indicate your flock annually generated approximately 3,832,500 gallons of process wastewater and 25,000 tons of solid manure. After the planned flock expansion, your flock will annually generate approximately 8,030,000 gallons of process wastewater and 50,000 tons of solid manure.
3. The use of application restriction options 1 and 5 within surface water quality management areas.
4. The use of phosphorus delivery method P Index.
5. That Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood currently has 491.9 acres (0 owned and 491.9 controlled through contracts, rental agreements or leases, or under manure agreements) of which 477.3 are spreadable acres.
6. That some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to Crawfish River (listed 303(d) impaired water by 'Total Phosphorus').
7. That no fields are directly adjacent to or have high potential to deliver nutrients and sediment to outstanding/exceptional waters.
8. That Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood currently has at least 321 days of storage for solid manure.
9. That 1 field is tiled.
  - Wiedenfeld Russel 07
10. That all fields will be checked for the following features prior to/during manure or process wastewater applications: soil areas with possible shallow groundwater (i.e., within 24 inches of surface) at the time of manure application; required setbacks associated with wells, navigable waters, conduits to navigable waters, grassed waterways, wetlands, possible soil erosion/flow channels.
11. That surface applications of manure will not be completed when precipitation capable of producing runoff is forecasted within 24 hours of the time of planned application.

### **CONDITIONAL NUTRIENT MANAGEMENT PLAN APPROVAL**

The Department hereby approves the 2018-2022 Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood Nutrient Management Plan subject to the following conditions and the applicable requirements of Ch. NR 243, Wis. Adm. Code:

#### FIELD AND MANURE MANAGEMENT

1. Fields not included in the NMP and new fields shall not receive manure or process wastewater applications until they have been properly soil sampled, entered into Snap Plus, evaluated for their nutrient needs, and approved by the Department.
2. The following fields have also been approved to receive industrial, municipal, or septage waste:

<b>Field Name</b>	<b>Other Permittee Name</b>	<b>Other Permittee Field Name</b>	<b>DNR #</b>
Wiedenfeld Home 01	NA	1	102061
Wiedenfeld Home 02	NA	2	102062
Wiedenfeld Home 03	NA	2	102062
	NA	17	102075
	NA	18	102076
Wiedenfeld Home 05-06	NA	6	102065
	NA	7	102066
Wiedenfeld Home 07	NA	16	102074
	NA	15	102073
Wiedenfeld Home 08	NA	10	102068

	NA	11	102069
Wiedenfeld Home 09	NA	12	102071
Wiedenfeld Home 10	NA	13	102072
	NA	19	102077
Wiedenfeld Stark 01B	NA	3	103431
Wiedenfeld Stark 01A	NA	3	103431
Wiedenfeld Stark 04	NA	4	103432
Wiedenfeld Stark 02	NA	2	103430

Prior to any manure applications on these fields Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood shall contact the entities listed above to obtain recent spreading records and make the necessary adjustments to the planned manure application rates. At the end of each year Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood shall contact each entity listed above to obtain spreading records from the previous year so that they can be properly tracked in the NMP. Please Note: Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood is responsible for obtaining nutrient content values for all other wastes spread on any field in their NMP.

- If existing fields yield a soil test results greater than 200 ppm P, those fields would be prohibited from receiving manure or process wastewater applications, unless you obtain Department approval in accordance with NR 243.14(5)(b)2., Wis. Adm. Code.
- If manure sample results have a dry matter (DM) content less than 2.0% and the percent ammonium ( $\text{NH}_4^+$ ) is greater than 75% of the total N, Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood may use the following equation to adjust the first year available nitrogen when applications are injected or incorporated within 1 hour:

$$\text{First-Year Available N} = \text{NH}_4\text{-N} + [0.25 \times (\text{Total N} - \text{NH}_4\text{-N})]$$

- Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood shall record daily manure applications by using form 3200-123A.
- Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood shall annually submit a spreading report that summarizes the land application activities listed under NR 243.19(3)(c)5., Wis. Adm. Code by using form 3200-123.

#### WINTER SPREADING

- Liquid manure applications during winter conditions, as defined by NR 243.14(7), Wis. Adm. Code, are prohibited with the exception of emergency applications.
- The following field(s) are approved for winter spreading of process wastewater only:

- |             |             |             |
|-------------|-------------|-------------|
| - Home 02   | - Home 07   | - Russel 10 |
| - Home 03   | - Home 10   | - Stark 01A |
| - Home 05   | - Russel 03 | - Stark 01B |
| - Home 06   | - Russel 04 | - Stark 02  |
| - Home 08   | - Russel 06 | - Stark 04  |
| - Home 09   | - Russel 02 | - Stark 05  |
| - Stark 03  | - Wollin 01 | - Home 01   |
| - Wollin 02 | - Wollin 03 | - Wollin 04 |

9. The following field(s) are denied for winter spreading of process wastewater:

- |           |           |              |             |
|-----------|-----------|--------------|-------------|
| - Home 04 | - Home 12 | - Russel 01B | - Russel 08 |
| - Home 11 | - Home 14 | - Russel 01A | - Russel 09 |
| - Home 13 | - Museum  | - Russel 07  | - Stark 06  |

10. Winter spreading of solid and liquid manure may not occur during the “high risk runoff period” pursuant to s. NR 243.14(6)(c) and NR 243.14(7)(c), respectively.

11. Winter applications of liquid manure shall only occur under emergency situations, after notifying the Department and receiving verbal approval.

12. Liquid applications shall be limited to 3,500 gallons per acre or 30 lbs. P per acre, whichever is less, on slopes 2-6% and 7,000 gallons per acre or 60 lbs. P per acre, whichever is less, on slopes 0-2%. Winter applications of solid manure shall be limited to 60 lbs. P per acre.

#### HEADLAND STACKING

13. No headland stacking sites are approved.

#### MANURE & PROCESS WASTEWATER IRRIGATION

14. Irrigation of manure or process wastewater is prohibited.

#### MANURE DISTRIBUTION

15. The department hereby approves Daybreak Foods Inc.- Wisconsin Cage Free- Creekwood to distribute dried solid manure to AgriNatural Grower Supply (AGS) via NR 243.142 (2)(b)(2), Wis. Adm. Code.

16. Based on the distribution plan submittal, Daybreak Foods, Inc-Creekwood will insure that AgriNatural Grower Supply will require growers to subscribe and adhere to a Nutrient Management Plan that is defined by NRCS code 590 when land application of the distributed manure, fertilizer, and compost takes place.

#### SUBMITAL AND RECORDKEEPING REQUIREMENTS

17. A copy of this conditional approval shall be included in all future annual Nutrient Management Plan Updates in addition to the NR 243 and NRCS 590 checklists.

This conditional approval does not limit the Department’s regulatory authority to require NMP revisions (based upon new information or manure irrigation research findings) or request additional information in order to confirm or ensure your farm operation remains in compliance with NR 243 and your WPDES permit conditions. If additional information, project changes or other circumstances indicate a possible need to modify this approval, the Department may ask you to provide further information relating to this activity.

Please keep in mind that approval by the Department of Natural Resources – Runoff Management Program does not relieve you of obligations to meet all other applicable federal, state or local permits, zoning and regulatory requirements.

If you have any questions regarding this approval I can be reached at 715-839-3775 or [Aaron.Orourke@Wisconsin.gov](mailto:Aaron.Orourke@Wisconsin.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'AOR', with a large, sweeping flourish extending upwards and to the right.

Aaron O'Rourke  
WDNR Nutrient Management Program Coordinator  
Wisconsin Department of Natural Resources

cc: Mark Cain, WDNR Agricultural Runoff Specialist ([Mark.Cain@Wisconsin.gov](mailto:Mark.Cain@Wisconsin.gov))  
Laura Bub, WDNR Watershed Field Supervisor ([Laura.Bub@Wisconsin.gov](mailto:Laura.Bub@Wisconsin.gov))  
Mary Anne Lowndes, WDNR Runoff Management Section Chief ([MaryAnne.Lowndes@Wisconsin.gov](mailto:MaryAnne.Lowndes@Wisconsin.gov))  
Ashley Scheel, WDNR CAFO NMP Reviewer ([Ashley.Scheel@Wisconsin.gov](mailto:Ashley.Scheel@Wisconsin.gov))  
Tony Salituro, WDNR Intake Specialist ([Anthony.Salituro@Wisconsin.gov](mailto:Anthony.Salituro@Wisconsin.gov))  
Patricia Cicero, Jefferson County ([PatriciaC@jeffersoncountywi.gov](mailto:PatriciaC@jeffersoncountywi.gov))  
Phillip Laatsch, Phillips Crop Care ([phillipscropcare@yahoo.com](mailto:phillipscropcare@yahoo.com))  
File

**CORRESPONDENCE/MEMORANDUM**

DATE: June 19, 2020

TO: Mark Cain – Wastewater Engineer, Bureau of Watershed Management

FROM: David Panofsky, P.E. – Air Management Engineer, Bureau of Air Management

SUBJECT: Air Quality Environmental Review for Daybreak Foods Inc.; 3 million layers and pullets egg production farm located in Lake Mills

The Air Management Program (AM) reviewed the air quality emissions of Daybreak Foods Inc. (Daybreak) in Lake Mills as part of its construction permit preliminary determination and this information is contained within this document. The initial part of this document includes general air-related information applicable to most concentrated animal feeding operations. This document represents the Air Management Program's review of the proposed Daybreak facility from the air quality perspective for the integrated environmental analysis associated with water quality permitting.

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

- Air emission limitations from s. NR 415.04, Wis. Adm. Code, covering fugitive dust sources
- 2011 Wisconsin Act 122 (creating s. 285.28, Stats.), signed into law March 7, 2012 and published March 21, 2012, exempts state hazardous air contaminants associated with "agricultural waste" from requirements of ch. NR 445, Wis. Adm. Code. Specifically, s. 285.28, Stats. reads as follows: "The department may not regulate the emission of hazardous air contaminants associated with agricultural waste except to the extent required by federal law."
- Applicable permitting thresholds contained in s. NR 406.04(2)(c), Wis. Adm. Code (construction permits); s. NR 407.02(4), Wis. Adm. Code (operation permits), s. NR 405.02(22)(a)2, s. NR 405.02 (27) and s. NR 405.07 (9), Wis. Adm. Code (PSD or prevention of significant deterioration).
- Chs. NR 406 and 407, Wis. Adm. Code, contain provisions that allow a source to exclude emissions of state hazardous air contaminants (including ammonia and hydrogen sulfide) from requirements of ch. NR 445, Wis. Adm. Code associated with agricultural waste in accordance with s. 285.28, Stats., signed into law March 7, 2012. These provisions apply to state hazardous air contaminants only and do not apply to criteria pollutants such as PM or VOCs, or to federal hazardous air pollutants or to PSD major source permitting thresholds contained in Ch. NR 405, Wis. Adm. Code.
- Hazardous contaminant emissions reporting requirements contained in Ch. NR 438, Wis. Adm. Code are also not applicable per s. 285.28, Stats.
- Odor control requirements may be imposed if the Department determines an objectionable odor exists per s. NR 429.03 – Malodorous Emissions, Wis. Adm. Code.

Daybreak, as with any source of air pollution, is required to evaluate existing information, determine its air emissions, and comply with any air regulatory requirements that apply. Daybreak received construction permit 18-JJW-054 on October 17, 2018. This memo includes general information on air-quality and animal agricultural operations and also includes findings from the air quality permit analysis.

**Air Quality:**

Animal agricultural operations generate odors and emit air pollutants. Depending upon the composition, concentration, frequency, and total mass of these emissions, these emissions may impact local or regional air



quality.

### **Air Pollutants and Odor**

Airborne pollutant emissions from concentrated animal feeding operations (CAFO), and other types of animal agricultural operations, include gases and particles. Air quality concerns are focused primarily on ammonia (NH<sub>3</sub>), hydrogen sulfide (H<sub>2</sub>S), odors, particulate matter (PM), volatile organic compounds (VOC), and greenhouse gases (GHG) including methane.

Odors are produced by a number of different air pollutants associated with animal agriculture. Some of the most objectionable compounds produced are: organic acids including acetic acid, butyric acids, valeric acids, caproic acids, and propanoic acid; sulfur containing compounds such as hydrogen sulfide and dimethyl sulfide; and nitrogen-containing compounds including ammonia, methyl amines, methyl pyrazines, putrescine, skatole and indoles.

Diesel exhaust particulate matter emissions from semi-trucks, manure spreaders and other miscellaneous farm equipment could also be generated by animal agricultural operations. Emergency generators, other stationary diesel or biogas engines and other combustion sources will emit pollutants, too. The combustion of diesel, biogas or other fuels emits and forms pollutants such as oxides of nitrogen (NO<sub>x</sub>); sulfur dioxide (SO<sub>2</sub>); carbon monoxide (CO); and other products of incomplete combustion.

In addition to primary emissions, certain air pollutants are formed through chemical processes in the atmosphere known as secondary formation processes. The secondary pollutants can have significant health and environmental effects. Ammonia reacts with sulfur dioxide and nitrogen oxides (NO<sub>x</sub>), driving the formation, through chemical condensation, of fine atmospheric particulates (PM<sub>2.5</sub>). VOC and NO<sub>x</sub> react to form ozone. Nitrogen containing compounds such as ammonia and NO<sub>x</sub> can result in increased nutrient loading and acidification of soils and waters upon deposition from the atmosphere.

### **Overview of Air Pollutant Health Effects**

Air pollutants, including hydrogen sulfide, ammonia and organic dust, can produce unhealthy air quality situations. Even when using beneficial management systems and mitigation techniques, some airborne contaminants may be generated. Concentrations of airborne contaminants may build up inside livestock buildings resulting in animal and human health concerns. Most concerns are associated with chronic or long-term exposure. However, some human and animal health concerns or safety hazards can result from acute or short-term exposures. Below is a summary table of air pollutants, sources, and health effects.

Pollutant	Sources	Health Effects
Particulate Matter and Particulate Matter up to 2.5 micrometers (PM <sub>2.5</sub> )	Grain & Feed storage and handling; animals; windblown dust	Effects vary with composition of particulates, size, concentration, and exposure frequency. For example, mineral dusts can cause obstructive respiratory disease. Particulates from combustion and atmospheric condensations with reactive components (often fine particulates or PM <sub>2.5</sub> ) cause vascular disease associated with chronic or acute inflammation. Chronic exposure to bioaerosols can result in immune hypersensitivity reactions in the form of atopic allergy or hypersensitivity pneumonitis. It has been estimated that animal agricultural operations in the upper Midwest can contribute a significant portion of the ambient PM <sub>2.5</sub> in winter.
Ammonia (NH <sub>3</sub> )	Animal manures and urine	Ammonia may be associated with increased respiratory symptoms. Eye and respiratory irritation are most likely effects when ammonia is present immediately around livestock facilities. Ammonia also contributes to regional air quality including the formation of PM <sub>2.5</sub> and associated health effects of fine-particle pollution. Ammonia gas and particulates can impact human and animal health and cause environmental degradation. If inhaled, the fine particulate (PM <sub>2.5</sub> ) forms of ammonia pose a risk to human and animal health. These particles can travel into the deepest part of the lungs and into the vasculature. Chronic exposure, from collective sources, causes a variety of ailments related to irritation and inflammation of cardiovascular tissues.
Hydrogen sulfide and other sulfur compounds.	Animal manures	Offensive odor at low concentrations. High concentrations above 100ppm cause nervous system depression including reversible respiratory paralysis leading to loss of consciousness and death. Intensity of odor is not a good indicator of danger, due to rapid olfactory paralysis at high concentration.
Volatile Organic Compounds (VOCs)	Animals, feeds and waste treatment	This is a general class of carbon-based chemicals that are small enough to evaporate and form part of the air mixture. Individual chemicals vary in odor and toxicity, but are typically regarded as nuisances at the concentrations typically found around livestock operations. Compounds include volatile fatty acids (butyric and caproic acid), that have distinct and offensive odors. In addition to health effects of individual compounds, VOCs

	participate in atmospheric reactions to create ozone, a reactive form of oxygen and a respiratory irritant.
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### Particulate matter, fugitive dust emissions, bioaerosols

Wisconsin defines particles, particulates or particulate matter as any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 µm (micrometers). In general, particles are identified according to their aerodynamic diameter, with the particles most relevant for human health as either PM10 (particles with an aerodynamic diameter smaller than 10 µm) and PM2.5 (aerodynamic diameter smaller than 2.5 µm). Even low concentrations of particulates have been related to a range of adverse health effects. Fine particulate matter (PM2.5) is considered more dangerous than PM10 since, when inhaled, PM2.5, though tiny, are mixtures of reactive chemicals. They are small enough to reach the deepest part of the lungs, where the smallest particles can enter the blood and cause inflammation in the lungs and heart\*. The tiny particles classified as PM2.5 are primarily formed by reactions in the atmosphere, or may be emitted directly to the atmosphere during combustion. Key precursor pollutants include, ammonia (principally from agricultural operations), SO<sub>2</sub> (principally from coal burning), NO<sub>x</sub> (principally from combustion processes) and organic carbon. The nature and sources of organic carbon vary widely and include combustion as well as secondary formation. Together, ammonium nitrate and ammonium sulfate represent about 60% of the total mass of PM2.5. On average, organic carbon represents about 30% of the mass of PM2.5. Black carbon and crustal material together are about 10% of the mass of PM2.5.

Sometimes called coarse particles, the particles in the PM10 size range are generally created by mechanical action such as crushing, grinding or wind-blown dust. Organic carbon content of particles will vary with the source material and method of formation. For example, the carbon content of PM varies inversely with the fineness of particles (Li et al, 2003).

Bioaerosols are a major component of the particulate matter from concentrated animal feeding operations (CAFOs). Bioaerosols are particles of biological origin that are suspended in air and include bacteria, fungi, fungal and bacterial spores, viruses, mammalian cell debris, products of microorganisms, pollens, and aeroallergens. Studies provide evidence that airborne biological contaminants (such as cow allergens<sup>†</sup>) are present in airborne particulate matter up to three miles from dairy operations (Williams et al, 2011). Another study (Dungan, 2010) provides a review of fate and transport of bioaerosols associated with a variety of livestock operations and manures.

Some microorganisms associated with bioaerosols are pathogenic; that is, capable of causing disease in animals and/or humans. The amount and variety of pathogens present in animal waste are dependent on a variety of factors including the health status of the animals and the characteristics of the manure and manure storage facilities (Spiehs and Goyal, 2007). While most environmental effects from manure-containing pathogens occur when introduced into surface and ground water, there is also potential for pathogens to become airborne during the process of land application (Saunders and Harrison, 2012).

### Ammonia

Ammonia (NH<sub>3</sub>) is an atmospheric pollutant of concern that readily reacts with acids and precursor pollutants in the atmosphere to form particulate ammonium sulfates [NH<sub>4</sub>HSO<sub>4</sub> and (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>], and ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>). These are contributors to ambient fine particulates (PM2.5), regional haze and decreased visibility, as well as to soil and water acidification. Another secondary effect of ammonia is increased nitrogen deposition from airborne

\* As a point of reference, a human hair is 60 micrometers in diameter.

† A cow-specific allergen, studied by Williams et al, 2011, “include Bos d 2, a member of the family of lipocalins, allergic proteins,...associated with cow dander, sweat and urine.”

ammonia, ammonium sulfates and ammonium nitrates on surface water and soils which may result in eutrophication and a tendency within an ecosystem towards degraded plant communities.

Agricultural livestock operations were estimated to account for 84 percent of ammonia emissions, based on a 2005 statewide inventory. Ammonia is primarily generated from animal waste and is released from buildings, infrastructure or other areas where animal waste is transported, processed, stored or land-applied. This includes confinement buildings, open lots, stockpiles, manure handling and storage facilities, and land application from both wet and dry manure handling systems.

The potential for ammonia emissions exists wherever manure is present. Nitrogen in animal wastes occurs as unabsorbed nutrients in animal feces and as either urea (mammals) or uric acid (poultry) in urine. Ammonia is produced when the urea contained in urine is enzymatically hydrolyzed by bacterial urease in feces (or e.g., on barn floors and in soil). Smaller amounts of ammonia are produced during the decomposition of feces.

The volatilization of ammonia from any manure management operation is highly variable depending on total ammonia/ammonium concentration, temperature, pH and storage time. Ammonia is highly soluble in water and can also readily volatilize from water solution to enter the air. However, when the pH of an ammonia solution is sufficiently low, ammonia exists in the form of ammonium ion ( $\text{NH}_4^+$ ), which is much less volatile than ammonia ( $\text{NH}_3$ ). High pH and high temperature favor a higher concentration of ammonia and, thus, greater ammonia emissions. The pH of both liquid and solid manures is influenced by the characteristics of the manure and environmental conditions. Manure pH can range from 7 to 8.5, which may result in fairly rapid ammonia volatilization. The surface pH for manure in housing facilities and manure storages is higher (from 0.5 to 1.0 pH units) than the average bulk pH of the excreted manure and is critical in determining ammonia emission rates. The pH of manure in storage is a function of solids content, with low solids having a pH around 7 and high solids around pH 8.5 (Rotz, 2014).

*Atmospheric ammonia concentrations in the Midwest.* Ammonia emissions are not constant throughout the year. They demonstrate seasonal and daily variations. The degree of seasonal variation depends on the geographic region, animal sector, and type of animal production practices used. For example, high temperature increases ammonia volatilization. Precipitation and humidity can increase or decrease emissions depending on how manure is managed. High wind speeds can increase emissions from open manure storage facilities and land application. The population of animals on a farm also may vary throughout the year, thereby changing ammonia emissions from housing and manure storage facilities.

The Midwest Regional Planning Organization (MRPO) has been collecting and analyzing data on ambient ammonia concentrations in order to evaluate the potential impacts of ammonia emission reductions on levels of ambient PM<sub>2.5</sub> and regional haze. The MRPO found that reducing ammonia emissions would be an effective strategy to reduce PM<sub>2.5</sub> concentrations and improve visibility in the Great Lakes region (LADCO, 2009 <http://www.ladco.org/reports/pm25/>).

The National Atmospheric Deposition Program (NADP) has been measuring nitrogen species and concentration in precipitation since the late 70's. Their results show the upper Midwest as a relative hotspot for ammonium and overall nitrogen deposition. Ammonium deposition hotspots have also been identified in North Carolina after the introduction of a significant number of CAFOs to the region (National Deposition Program, 2014 <http://nadp.sws.uiuc.edu/data/animaps.aspx>).

*Regulatory perspective.* Ammonia is a state hazardous air pollutant under Ch. NR 445, Wis. Adm. Code. Wisconsin has an ambient air quality standard for ammonia of 418  $\mu\text{g}/\text{m}^3$  averaged over a 24-hour period. Agricultural wastes are currently exempt from the requirements of Chs. NR 445 and reporting of ammonia from agricultural waste would not be required under NR 438, Wis. Adm. Code. Ch. NR 438, Wis. Adm. Code contains reporting requirements when emissions exceed 2,097 lb/yr of ammonia. The Clean Air Act lists ammonia in section 112(r)(3).

Ammonia is listed as a toxic air contaminant in chapter NR 445 because it can cause adverse health effects at ambient concentrations. Ammonia's toxicity is based upon its caustic properties. At low concentrations, ammonia is irritating to wet tissues of the lungs, airways, and eyes. At sufficiently high concentrations, ammonia begins to dissolve those tissues, causing more severe damage.

### Ammonia Toxicity Progression

Property	Concentration in Air (ppm)
Detectable Odor	0.04-53
Eye, Nose Irritation	50-100
Strong Cough	50-100
Airway Dysfunction	150
Lethal in 30 Minutes	2,500-4,500
Lethal Immediately	5,000-10,000

Few monitoring studies have been completed in Wisconsin to document ambient ammonia concentration changes with respect to distance and time from a source. However, there are 2 sites in Wisconsin which participate in NADP's Ammonia Monitoring Network (AMoN) - Perkinstown (located inside of the Chequamegon-Nicolet National forest in Taylor County) and Horicon Marsh (at the southern end of the Wildlife Refuge in Dodge County). Both sites show concentrations of ammonia that are somewhat above the national average.

### Hydrogen Sulfide

There are several biotic, abiotic, and industrial sources of hydrogen sulfide (H<sub>2</sub>S) release into the atmosphere. Hydrogen sulfide releases associated with livestock operations typically result from the anaerobic decomposition of sulfur-containing organic matter (primarily manure). Hydrogen sulfide is a colorless gas that is heavier than air and highly soluble in water, with odor and health implications. Fundamental gas laws ultimately dictate the equilibrium behavior of a gas. In the case of hydrogen sulfide, its slightly higher molecular weight relative to air, combined with its slow rate of release from the aqueous phase, result in it initially staying near the ground. Hydrogen sulfide will eventually mix thoroughly in an enclosed space at equilibrium. Liquid manure storage pits (inside buildings) or basins (near barns) are the primary sources of hydrogen sulfide in animal production. Significant quantities of hydrogen sulfide can be released during agitation of stored liquid manure, during the flushing of animal housing and from sand separation channels prior to storage lagoons. In addition, mechanical solids separation and biogas processing can release significant concentrations of the gas.

There are limited studies in Wisconsin on the unhealthy levels of hydrogen sulfide beyond the property boundary of large animal agricultural operations. These studies have not documented hydrogen sulfide concentrations associated with dairy operations in Wisconsin as a health hazard. Problems with hydrogen sulfide were documented in 2008 in Minnesota, where air emissions from the Excel Dairy in Thief River Falls were deemed a public health hazard. Note: Minnesota has a different hydrogen sulfide standard than Wisconsin<sup>‡</sup>. In 2009, The Wisconsin Division of Public Health in cooperation with the Agency for Toxic Substances and Disease Registry and U.S. EPA studied one feeder pig operation in southwest Wisconsin and concluded that exposure to hydrogen sulfide in air locations near that particular operation was not expected to harm people's health, although hydrogen sulfide was at times detected as an odor.

*Regulatory perspective:* Hydrogen sulfide is a state hazardous air pollutant under Ch. NR 445, Wis. Adm. Code. Wisconsin has an ambient air quality standard for H<sub>2</sub>S which is 335 µg/m<sup>3</sup> (about 238 ppb) averaged over a 24-hour

<sup>‡</sup> Minnesota has established air quality standards for H<sub>2</sub>S that are more restrictive than Wisconsin's. Minnesota's ambient air quality standards for H<sub>2</sub>S are measured concentrations of 30 ppb no more than twice in 5 days, averaged over 30-minute periods, and no more than 50 ppb in any two 30-minute periods over those same 5 days.

period. Hydrogen sulfide from agricultural wastes is currently exempt from the requirements of Chs. NR 445 and NR 438, Wis. Adm. Code.

Ch. NR 438, Wis. Adm. Code, contains reporting requirements when emissions exceed 3,279 lb/yr of H<sub>2</sub>S. The Clean Air Act lists hydrogen sulfide in section 112(n) and (r). Total reduced sulfur and hydrogen sulfide each have a PSD significance threshold of 10 tpy as defined in Table A in s. NR 405.02 (27), Wis. Adm. Code.

The toxic mechanism of hydrogen sulfide is similar to cyanide, though much less potent. Of the several ways in which hydrogen sulfide can affect human health, the most dangerous is when H<sub>2</sub>S is concentrated enough to cause respiratory paralysis through the nervous system, leading to collapse and loss of consciousness while in a dangerous air environment such as a sewer or enclosed manure pit. NIOSH lists 100ppm H<sub>2</sub>S as *immediately dangerous*, although the actual concentration during incidents of loss of consciousness are usually unknown<sup>§</sup>. Manure gas safety is outlined in an interagency (DATCP, NRCS, and DHSF) November 2008 report, “Manure Gas Safety; Review of Practices and Recommendations for Wisconsin Livestock Farms.”

### Hydrogen Sulfide Toxicity Progression

Property	Concentration in Air (ppm)
Offensive odor, headache (chronic exposure)	0.3
Very Offensive (chronic)	3-5
Asthmatics affected (acute)	2
Olfactory paralysis (acute)	150
Central Nervous System Depression/Loss of Consciousness	>500
Lung Paralysis, Collapse, Death	600-1,000

### Greenhouse Gases

Agriculture in general, and livestock operations in particular, are anthropogenic sources of greenhouse gas emissions (GHG). The primary GHGs associated with animal agriculture include methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). The July 2008 report of the Wisconsin Governor’s Task Force on Global Warming includes several recommended policies for the animal agriculture sector to reduce GHG emissions. Among the recommendations to reduce emissions are nutrient and manure management changes (*i.e.* to reduce nitrous oxides and methane) and the production, capture and combustion of waste-derived methane. While enteric emissions appear to be the majority of GHG emitted by livestock, GHG associated with manure management can be significant.

US EPA has finalized a rule (40 CFR part 98, subpart JJ) which contains reporting requirements for GHGs for animal agricultural sources emitting over 25,000 metric tons annually of carbon dioxide equivalents (mtCO<sub>2e</sub>) from manure management activities. In 2009, US EPA estimated that 25 dairy operations in the US exceeded the 25,000 mtCO<sub>2e</sub> for manure management systems. In addition, the federal and state Prevention of Significant Deterioration (PSD) permitting programs require consideration of GHG emissions from sources already required to undergo PSD permitting for any other regulated pollutant.

### Volatile Organic Compounds & Other Hazardous Air Contaminants

Volatile organic compounds (VOCs), which contribute to odor and air quality problems, have been identified and associated with CAFOs. Research in the U.S. has focused primarily on dairy CAFOs. VOCs are associated with fermented feeds and both enteric fermentation and with fresh and stored manure. Researchers have identified 113 VOC compounds, including 82 VOCs coming from a lactating cow open stall and 73 coming from a slurry lagoon.

<sup>§</sup> U.S. Department of Health, Agency for Toxic Substances and Disease Registry (ASTDR) 2014

These compounds include: alcohols, aldehydes, ketones, esters, aromatic hydrocarbons, halogenated hydrocarbons, terpenes, other hydrocarbons, amines, other nitrogen containing compounds and sulfur-containing compounds.

On a mass basis, ethanol (EtOH), methanol (MeOH), acetic acid, acetaldehyde, and acetone are the major VOC compounds generated on dairy animal agricultural operations (from silage and manure sources). Both methanol and acetaldehyde are federal hazardous air pollutants under Sec. 112 (b). To the Department's knowledge, no state has made a regulatory decision at animal agricultural operations based on methanol or acetaldehyde emissions, nor has the US EPA published or cited information to suggest these pollutants could individually exceed 10 tons/year or together exceed 25 tons/year which are the thresholds for developing a MACT (maximum achievable control technology) under s. 112(d), or determining a case-by-case MACT under s. 112(g)(2) of the Clean Air Act.

VOCs are defined in s. NR 400.02(162), Wis. Adm. Code as "any organic compound which participate in atmospheric photochemical reactions." This definition excludes a number of compounds determined to have negligible photochemical reactivity, such as methane. VOCs are a precursor pollutant to ozone, a criteria pollutant, and have permitting thresholds and general control requirements in Chs. NR 405, 406, 407, 408, 419 and 424, Wis. Adm. Code. Many VOCs are also classified as federal hazardous air pollutants (HAPs), such as methanol or acetaldehyde.

### Odors

Odor is a very real and often highly charged issue for farmers, neighbors and local government in terms of health risks, both perceived and real, and nuisance lawsuits. In fact, the issue of air emissions and odors are often talked about as being one-and-in-the-same. However, it is important to note that not all air pollutants have odors, just as not all odor-causing agents are regulated air pollutants. Additionally, many compounds have very strong odors at extremely low concentrations which can result from emissions far below any regulatory limits. Differentiating between emissions of air pollutants and odors is important, both in terms of mitigation practices and the effectiveness of those practices.

Odorous gases emitted from CAFOs are primarily generated from the microbial breakdown of feed in the gut of animals and in the stored manure. Feed, particularly silage under certain conditions, can also be a significant odor source. While there are numerous odorous compounds associated with manure, odors can also result from a combination of dozens, if not hundreds, of airborne compounds. These compounds can act synergistically to produce an odor that is actually more intense than would be expected from the sum of the individual compounds present.

Most of the odorous compounds that are emitted from animal production operations are byproducts of anaerobic decomposition/transformation of livestock wastes by microorganisms. Animal wastes include manure (feces and urine), spilled feed and water, bedding materials ( e.g., straw, sunflower hulls, wood shavings), wash water, and other wastes. DATCP (and NRCS standards) define manure as containing all these things (feces, urine, bedding, spilled water, etc.). This highly organic mixture includes carbohydrates, fats, proteins, and other nutrients that are readily degradable by microorganisms in a wide variety of suitable environments. The by-products of microbial transformations depend, in major part, on whether it is done aerobically (*i.e.* with oxygen) or anaerobically (*i.e.* without oxygen). Microbial transformations done under aerobic conditions generally produce fewer odorous by-products than those done under anaerobic conditions. However, compounds such as alcohols and acids which are produced by aerobic decomposition may have strong odors as well. Moisture content and temperature affect the rate of microbial decomposition.

A large number of volatile compounds have been identified as by-products of animal waste decomposition. The compounds are often listed in groups based on their chemical structure. Some of the principal odorous compounds and compound groups are: ammonia, amines, hydrogen sulfide, volatile fatty acids, indoles, phenols, mercaptans, alcohols, and carbonyls. Carbon dioxide and methane are odorless.

All sources of air emissions are subject to s. NR 429.03, Wis. Adm. Code. This rule establishes general limitations on objectionable odor, defines the tests for what constitutes objectionable odor, and requires that preventive

measures satisfactory to the department be taken. Ch NR 429, Wis. Adm. Code includes a procedure for determining objectionable odors based on conditions at the facility once it has been constructed and is operating.

The Livestock Facility Siting rule consists of s. 93.90, Wis. Stats. and Ch. ATCP 51, Wis. Adm. Code and establishes state standards (including provisions for addressing odors) and procedures local governments must follow **if** they choose to require conditional use or other permits for siting new and expanded livestock operations. Facilities covered by the Livestock Facility Siting Law must comply with an odor standard that uses a predictive model to determine acceptable odor levels from the farm areas, including manure storage, animal housing and open lots.

The predictive model used with ATCP 51 has several features. For example, the model:

- requires practices described in ATCP 51, if a proposed facility does not have adequate separation distance from neighbors
- provides a range of practices to choose from (including low cost options to manage odor)
- protects future expansions by fixing the closest neighbor at the time of the original application, yet does not allow for continuous odor monitoring for enforcement purposes

### Identifying and Quantifying Air Pollutants

Both the quantity and the types of air contaminant emissions from animal agricultural operations are challenging to estimate, making off-site air quality impacts difficult to predict. This is due to hourly, daily, and seasonal temperature variation; the varying number and type of animals present (which may change over time); the type of housing and manure handling system; the feed type; and the chosen management practices.

Emissions estimating methodologies have been used by other states and in some cases the Department has provided estimates using the best available science and professional judgment to provide annualized total mass emissions (and some daily maximum emissions for ammonia) for a number of air pollutants. “High” or “low” mass emissions (flux) of air pollutants on an annualized basis do not necessarily predict ambient (or indoor) air concentrations of those pollutants. There is little dispute that large animal agricultural operations have the potential to emit substantial quantities of air pollutants.

### Federal Study

In the late 1990s, US EPA realized that it did not have sufficient air emissions data to implement federal Clean Air Act requirements for animal feeding operations. To resolve the situation, US EPA began discussions with animal feeding operation owners in 2001. These discussions led to a January 31, 2005 EPA Federal Register notice offering individual animal feeding operations an opportunity to voluntarily sign a consent agreement committing them to participate in a nationwide air emission monitoring study and establishing a timeline for them to achieve compliance with federal air permit, air emission control, and air emission reporting requirements. In return, EPA provided limited amnesty from enforcement action during the term of the agreement.

Data collection was completed in mid-2009 (including one dairy operation located in Wisconsin) with final data reported to US EPA during the summer of 2010. On January 13, 2011, US EPA made National Air Emissions Monitoring Study (NAEMS) data available to the public. US EPA is presently evaluating this and other data and intends to publish air emissions estimating methods for animal feeding operations in the future. In February 2012 US EPA published two draft Federal emissions estimating methodologies for animal agricultural operations – one for “broiler operations” and the other for “lagoon emissions” from dairy (and swine) operations, based on NAEMS-derived data. The dairy-related draft report was reviewed by the US EPA Science Advisory Board (SAB) formed in mid-March 2012. The SAB produced a final report to EPA on April 19, 2013 (EPA-SAB-13-003) recommending a process-based methodology for estimating emissions from animal agricultural operations.

### How Air Pollutants Are Emitted

After contaminants are generated, they are emitted through animal housing ventilation systems or emitted from other sources including animal holding and production areas, feed preparation and storage, manure management/storage facilities, mortality management, and land application sites. From these sources, air pollutants are dispersed by atmospheric processes. Air contaminant travel distance varies due to different phases (gaseous, liquid or particulate), size of particles, air contaminant reactivity, weather conditions, surrounding topography and vegetation, as well as other factors. These variations make it challenging to form a clear picture of the expected emissions and emission-related effects from animal agricultural operations. This is especially true for air pollutant concentrations (indoor or outdoor ambient air quality measurements) as opposed to an average annualized emissions flux.

### Dispersion Models and Ambient Air

Regulatory dispersion modeling is predicated on the steady-state nature of the release. Gaussian plume models have been developed to replicate monitored concentrations attributed to industrial or commercial operations, for example a large industrial boiler for generating steam and/or electricity. The release of farm emissions comes from locations (i.e. housing, waste storage facilities) that are unlike a smoke stack. These emissions are able to be modeled, but there is more uncertainty associated with establishing release parameters. The time-varying nature of farm emissions is even more difficult to model. Regulatory models generally assume steady-state emission generation. This implies that over the course of one hour, the emission rate will not significantly change, and that any changes from hour-to-hour are under the control of the operator. Farm emissions vary between hours, within a given hour, and more importantly, this variation is difficult to predict because of the large number of factors which must be considered.

Despite the variability of emissions from animal agricultural operations, the nitrogen balance including ammonia has been studied extensively in dairy operations which have integrated cropping systems. In this context, integrated cropping systems involve coordinating the management of individual crops in order to benefit from the interaction of other crops, pasture, and farm-derived nutrients (manure) to produce feed or feedstocks for livestock or other valuable agricultural commodities. Nitrogen excretion from animals varies based on nitrogen feed rates, the nutritional needs of the dry or lactating cows, and how much nitrogen ends up in milk. In Wisconsin and elsewhere, research points to an average annualized total nitrogen loss of 15 percent from freestall housing and 10 to 30 percent loss of nitrogen as ammonia from incoming nitrogen in uncovered manure storage (Satter et al, 2002; Powell et al, 2013).

### Nitrogen Deposition

Many studies have shown that the majority of gaseous ammonia is deposited close to the emission source (within a half mile), while other studies have shown trace amounts measured more than six miles away (Lupis, et al 2010). So, ammonia, before it has a chance to react to form other ammoniated particles, may be deposited close to the source and create a hotspot for nitrogen deposition. Gaseous ammonia can travel much further and last longer in the atmosphere if it reacts with other chemicals (as described in the ammonia section) and is transformed into a particle. Gaseous ammonia can react with other ambient gases and particles, including nitric and sulfuric acids (formed from NO<sub>x</sub> and SO<sub>x</sub>, respectively), contributed by combustion processes. These reactions result in the formation of solid ammoniated particles, such as ammonium nitrate and ammonium sulfate, that contribute to fine particulate matter, or PM<sub>2.5</sub>. Due to its small diameter and increased atmospheric lifetime (from several days to weeks), PM<sub>2.5</sub> may travel nearly 100 times further than gas phase ammonia before settling or falling out of the air (Klaasen et al, 1992; Sommer et al, 2008; Lupis, et al 2010; Walker et al 2014).

Transport and deposition of ammonia gas and ammoniated particles into pristine areas has been documented to result in ecosystem changes. These effects can include soil acidification, plant community changes (e.g., promoting grasses, sedges, and weedy plants while choking out native plants and wildflowers) and water eutrophication (i.e., an increase in aquatic plant production, harmful because it can lead to a lack of oxygen). These negative environmental impacts can have a cascading effect throughout the entire ecosystem (Baron et al, 2000; Porter et al, 2007; Doering et al 2011; Nanus et al, 2012).

Nitrogen inputs have also been studied in several east and Gulf Coast estuaries due to concerns about eutrophication. Nitrogen from atmospheric deposition is estimated to be as high as 10% to 40% of the total input of nitrogen to some of these estuaries and perhaps higher in a few cases (Kerchner et al, 2000; Alexander et al, 2001).

There is scientific evidence that nitrogen deposition can impact specific plant communities and eventually leads to “nitrogen saturation” of soils. The National Parks Conservation Association states that atmospheric nitrogen deposition in Indiana Dunes National Lakeshore is of concern because the park’s sand dunes and bogs are nitrogen-limited ecosystems— places where nitrogen naturally occurs in limited quantities, thereby limiting plant growth. Atmospheric deposition increases the amount of nitrogen that is available to plants and can unnaturally accelerate succession to later stages, alter species composition, and reduce species richness. Acid deposition is also of concern at Indiana Dunes because changes in soil pH can lead to changes in vegetation. One study suggests that “...the addition of nitrogen may lead to a decline in the wild lupine population... The decline in biomass production [of wild lupine]... may suggest that the wild lupine seedlings were not able to adapt to the drastic change of nitrogen enrichment in the soil.” (Avans, 2012). Other studies on nitrogen deposition and critical loads of nitrogen have been published in the U.S. and in Europe (Erisman, et al, 2007; Stevens et al, 2010; Pardo, et al 2011; Sullivan, et al 2011; Zhang et al, 2012; Davidson, 2012; Establishment of Threshold Effects for the Forest County Potawatomi Community Class 1 Air Quality Related Values, 2012).

### Air Emissions Mitigation

There are ways to minimize, although not eliminate, air pollutant emissions from animal agricultural operations, including dairy or swine operations. Specifically, beneficial management practices (BMPs) are defined as production methods, technologies and waste management practices used to prevent or control air emissions from livestock facilities. Even with a number of practices put in place, significant air emissions reductions can be challenging to attain.

Wisconsin DNR in coordination with an advisory group which included animal agriculture producers, academics, NRCS and DATCP, published a report in December 2010 (BMP report) which included a list of beneficial management practices that reduce ammonia and hydrogen sulfide air emissions.

The BMP report presented the following general concepts:

- Not every BMP will be appropriate for every animal agricultural operation, nor will every BMP be technically or economically feasible for a given farm. Animal agricultural operations generally choose a number of individual practices or a combination of practices based on farm-specific features and other factors.
- In some cases, a specific BMP focusing on one air pollutant may actually contribute to an increase in other air emissions or to environmental problems in other media (e.g. ground water or surface water).
- In general, practices which reduce odor tend to reduce ammonia and/or hydrogen sulfide, but not always.
- Different production methods, animal types, and manure management systems have the potential to create different types and quantities of air emissions. In order to successfully mitigate emissions, different practices, or a combination of practices and technologies, may be required.
- Many of the BMPs, which prevent or mitigate air emissions, often make common and economic sense. For example, mixed operations that integrate optimal cropping systems with animal production typically retain nitrogen for crops (minimizing ammonia losses), resulting in decreased need for fertilizer nitrogen.
- Successful reduction of ammonia and hydrogen sulfide losses from animal agriculture requires an integrative, whole-farm emissions approach for effective evaluation and selection of practices or technologies.

- While certain practices or technologies may be quite effective for controlling emissions from one part of a farm, it is important to understand the fate of those controlled emissions elsewhere. For example, while an impermeable cover is one of the most effective ways of controlling emissions from manure storage facilities, liquid manure still has potential to release contaminants during subsequent land application activity.

There are practices and technologies which prevent or reduce the formation of ammonia or hydrogen sulfide. For example, the benefits of not over-feeding nitrogen to animals through dietary and nutrition practices are reductions in nitrogen excretion (and, hence, ammonia) which will be realized throughout all farm components (e.g., animal housing, manure management systems including manure storage, and land application).

Technologies which capture and treat air (e.g., biofilters) can also significantly reduce air emissions (for ammonia, hydrogen sulfide, VOCs) from any mechanically ventilated space. Production methods and practices which keep manure in an aerobic state will greatly reduce the emissions of hydrogen sulfide.

## **Air Quality Regulations Overview**

### **Existing Federal Regulations**

Under the federal Clean Air Act, new and existing major stationary sources of federally regulated criteria air pollutant emissions are subject to federal air permit requirements. Included are permit requirements under the federal “Prevention of Significant Deterioration (PSD)” and “Non-Attainment Area” New Source Review programs, along with the applicable requirements for “Best Available Control Technology”, and “Lowest Achievable Emission Rate” technology and offsets, respectively. Emissions associated with animal feeding operations (AFOs) are not categorically exempt from these requirements.

Under Section 112(b) of the federal Clean Air Act, hazardous air pollutants are regulated through National Emission Standards for Hazardous Air Pollutants (NESHAPs) established by industry sector. No such standards have been established specifically for AFOs. Ammonia and hydrogen sulfide, two air pollutants associated with AFOs, are not regulated as federal hazardous air pollutants under section 112(b).

The Clean Air Act lists ammonia and hydrogen sulfide in section 112(r)(3).

On June 4, 2019, US EPA Administrator Wheeler signed a final rule to amend the emergency release notification regulations under EPCRA. This amendment adds a reporting exemption for air emissions from animal waste at farms.

Methanol and acetaldehyde are federal hazardous air pollutants with emission limitations covered under section 112(b) of the Clean Air Act. Any stationary source which emits, or has the potential to emit, 10 tons per year of methanol or acetaldehyde, or 25 tons/year combined, would be a “major source” under the Clean Air Act.

### **Existing State Regulations**

The federal air permit requirements described above are incorporated into state air permit rules in chs. NR 405, 406, and 407. In addition, chs. NR 406 and 407 include air permit requirements for minor sources. Emissions associated with animal feeding operations are not categorically exempt from these requirements.

Ch. NR 445, Wis. Adm. Code, addresses the control of state hazardous air contaminants. This rule establishes ambient air standards for specific contaminants in the ambient air. The acceptable 24-hour average ambient concentrations for ammonia and hydrogen sulfide, the two primary contaminants associated with agricultural waste, are 418 and 335 micrograms per cubic meter, respectively.

2011 Wisconsin Act 122 (creating s. 285.28, Stats.), signed into law March 7, 2012 and published March 21, 2012, exempts state hazardous air contaminants associated with "agricultural waste" from state regulations. Specifically, s. 285.28, Stats. reads as follows: "The department may not regulate the emission of hazardous air contaminants associated with agricultural waste except to the extent required by federal law." The exemption applies to only state hazardous air contaminants (such as ammonia, hydrogen sulfide, or acetic acid) and does not apply to criteria pollutants such as PM, or VOCs, or to federal hazardous air pollutants.

Odors are addressed in ch. NR 429 (Malodorous Emissions). Ch. ATCP 51 (Livestock Facility Siting) consists of a state statute (s. 93.90) and rule (ATCP 51) that establish state standards and procedures local governments must follow if they choose to require conditional use or other permits for siting new and expanded livestock operations.

In addition to Livestock Siting and NR 429, there is a statute (s. 823.08, Wis. Stats) also referred to as the "Right-to-Farm Law" which could address how odors generated at animal agricultural operations are to be addressed. According to the Wisconsin Legislative Council, the purpose of this statute is to "provide a measure of protection for farmers from lawsuits, in which the normal consequences of an agricultural activity such as odors, noise, dust, flies or slow-moving vehicles are claimed to be a nuisance."

Similar to federal reporting requirements, state reporting requirements include requirements in ch. NR 445 and the annual air emission reporting requirements of ch. NR 438, Wis. Adm. Code. Hazardous air emissions from animal feeding operations ("agricultural waste") are exempt from these state reporting requirements though.

The following site-specific air-related information is pulled directly from the department's air quality construction permit preliminary determination.

#### **GENERAL APPLICATION INFORMATION**

Owner/Operator: Daybreak Foods, Inc.  
N5344 Crossman Road  
Lake Mills, Jefferson County, WI 53551-9653

Responsible Official: Mr. Keith Kulow, Regional Manager  
keith@daybreakfoods.com

Application Contact Person: Mr. Rick Roedl, Capital Projects Manager  
(920) 648-7017  
rroedl@daybreakfoods.com

Application Submitted By: Mr. Jim Fleischman, Pollution Technology  
(608) 831-2730  
Jimf@pollutiontechnology.com

Application Submittal Date: April 10, 2018

Date of Complete Application: May 14, 2018

## PROJECT DESCRIPTION

Daybreak Foods, Inc., proposes to increase egg production at their Lake Mills location. The facility intends to accomplish this increase through a substantial rebuild of their existing facility. The facility proposes to construct 3 pullet houses and 5-layer barns with a goal of reaching a total of nearly 3 million layers and pullets across existing and proposed houses and barns. The project will also involve the installation of a number of support operations, including feed storage bins, heating units, boilers, emergency generators, animal incinerators, processing plant and feed mill operations.

This project requires a construction permit under ch. NR 406, Wis. Adm. Code, because no exemptions are applicable to this project, and the maximum theoretical emissions from the project exceed the thresholds under s. NR 406.04(2), Wis. Adm. Code.

## SOURCE DESCRIPTION

Daybreak Foods is located in a mostly rural area south of Lake Mills, Wisconsin. This is an area with rolling hills and mixed wooded land and agricultural land use. Jefferson County is designated as attainment or unclassified for all criteria pollutants.

### Description of New or Modified Units:

#### Barns

Fugitive F01 – Pullet House 1  
 Fugitive F02 – Pullet House 2  
 Fugitive F04 – Pullet House 4  
 Fugitive F11 – Layer Barn 1  
 Fugitive F12 – Layer Barn 2  
 Fugitive F13 – Layer Barn 3  
 Fugitive F14 – Layer Barn 4  
 Fugitive F15 – Layer Barn 5

#### Feed Storage

Process P01A-B, Stack S01A-B – Pullet House 1 – Two Feed Storage Bins  
 Process P02A-B, Stack S02A-B – Pullet House 2 – Two Feed Storage Bins  
 Process P03A, Stack S03A – Pullet House 3 – One Feed Storage Bin  
 Process P04A-B, Stack S04A-B – Pullet House 4 – Two Feed Storage Bins  
 Process P11A-D, Stack S11A-D – Layer Barn 1 – Four Feed Storage Bins  
 Process P12A-D, Stack S12A-D – Layer Barn 2 – Four Feed Storage Bins  
 Process P13A-D, Stack S13A-D – Layer Barn 3 – Four Feed Storage Bins  
 Process P14A-D, Stack S14A-D – Layer Barn 4 – Four Feed Storage Bins  
 Process P15A-D, Stack S15A-D – Layer Barn 5 – Four Feed Storage Bins

#### Heating Units

Process P21A-H, Stack S21A-H – Pullet House 1 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P22A-H, Stack S22A-H – Pullet House 2 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P24A-H, Stack S24A-H – Pullet House 4 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P31A-L, Stack S31A-L – Layer Barn 1 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P32A-L, Stack S32A-L – Layer Barn 2 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P33A-L, Stack S33A-L – Layer Barn 3 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P34A-L, Stack S34A-L – Layer Barn 4 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P35A-L, Stack S35A-L – Layer Barn 5 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Boiler B40, Stack S40 – Processing Plant Low Pressure Steam Natural Gas Boiler – 4.0 MMBtu/hr  
 Boiler B41, Stack S41 – Egg Wash Natural Gas Boiler 1 – 2.0 MMBtu/hr  
 Boiler B42, Stack S42 – Egg Wash Natural Gas Boiler 2 – 2.0 MMBtu/hr  
 Boiler B43, Stack S43 – Process Plant Natural Gas HVAC System 1 – 2.0 MMBtu/hr  
 Boiler B44, Stack S44 – Process Plant Natural Gas HVAC System 2 – 2.0 MMBtu/hr

#### Feed Mill

Process P60, Stack S60 – 250,000 Bushel Feed Mill Surge Corn Storage Bin  
 Process P61, Stacks S61, Control C61 – Feed Mill Operations (16 Ingredient Bins, 6 Loadout Bins, 8 Micro Ingredient Bins, 2 Indoor Receiving Pits)

Emergency Generators

- Process P81, Stack S81 – Pullet House 1: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P82, Stack S82 – Pullet House 2: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P84, Stack S84 – Pullet House 4: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P89, Stack S89 – Processing Plant 5.2 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P91, Stack S91 – Layer Barn 1: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P92, Stack S92 – Layer Barn 2: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P93, Stack S93 – Layer Barn 3: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P94, Stack S94 – Layer Barn 4: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator
- Process P95, Stack S95 – Layer Barn 5: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Crematories

- Incinerator I02, Stack S02 – Layer Barn Crematory 2
- Incinerator I03, Stack S03 – Pullet House Crematory 1

**EMISSION CALCULATIONS.**

This section provides information describing how air pollution emissions from the source have been determined. It describes the source of the emission estimates, references emission factors and equations used and/or describes the engineering judgement used to determine emissions. This information provides the department’s legal and factual basis for how the emission estimates support the draft permit conditions. As required by 40 CFR s. 70.5(c)(3)i., these emission estimates are sufficient to verify which requirements are applicable to the source. Refer to the Applicable Requirements and Compliance Demonstration section for details regarding how the emission estimates are used to determine the applicable requirements for the source.

- Fugitive F01 – Pullet House 1
- Fugitive F02 – Pullet House 2
- Fugitive F04 – Pullet House 4
- Fugitive F11 – Layer Barn 1
- Fugitive F12 – Layer Barn 2
- Fugitive F13 – Layer Barn 3
- Fugitive F14 – Layer Barn 4
- Fugitive F15 – Layer Barn 5

The emissions from the pullet houses and layer barns are based on the results of the National Air Emissions Monitoring Study entitled “Emissions Data From Two Manure-Belt Layer Barns in Indiana”. Of the three poultry CAFO emission studies performed for the US EPA, this study most represents the operations at this facility. While the results of these US EPA studies are in question, these studies are the best information available at this time for estimating emissions from these sources. Each of the pullet houses has a maximum capacity of 200,000 pullets. Each of the layer barns has a maximum capacity of 400,000 layers.

PM and PM<sub>10</sub> emissions are not calculated for the pullet houses because pullets produce comparatively little manure and these houses are essentially sealed. PM and PM<sub>10</sub> emissions for the layer barns do not account for the advanced air handling systems used in this cage free facility which may result in lower potential emissions.

Pollutant	Emission Factor	Units
PM	60.1	mg/day/bird
PM <sub>10</sub>	16.6	mg/day/bird
VOC	40.9	mg/day/bird
Ammonia	274	mg/day/bird
Hydrogen Sulfide	1.92	mg/day/bird

- Process P01A-B, Stack S01A-B – Pullet House 1 – Two Feed Storage Bins
- Process P02A-B, Stack S02A-B – Pullet House 2 – Two Feed Storage Bins
- Process P03A, Stack S03A – Pullet House 3 – One Feed Storage Bin
- Process P04A-B, Stack S04A-B – Pullet House 4 – Two Feed Storage Bins
- Process P11A-D, Stack S11A-D – Layer Barn 1 – Four Feed Storage Bins
- Process P12A-D, Stack S12A-D – Layer Barn 2 – Four Feed Storage Bins
- Process P13A-D, Stack S13A-D – Layer Barn 3 – Four Feed Storage Bins

Process P14A-D, Stack S14A-D – Layer Barn 4 – Four Feed Storage Bins

Process P15A-D, Stack S15A-D – Layer Barn 5 – Four Feed Storage Bins

Each storage silo has a daily maximum throughput of 11 tons of feed per day. The layer barn storage bins are filled by an enclosed conveyor from the existing feed mill which crosses over each layer barn silo. The production capacity of the feed mill is 60 tons per hour. The maximum annual rate assumes each storage silo is filled once per day. The Pullet House storage bins are filled by truck via auger. The maximum hourly particulate emission rates are based on the emission factors from US EPA, AP-42, Section 9.9.1 – Grain Elevators and Processes as listed below. Silos exhaust small amounts of particulate matter only when they are being loaded as the air in the silo is displaced. The particulate matter emissions from these silos are exhausted uncontrolled through mesh screens.

Pollutant	Emission Factor	Units
Particulate Matter (PM)	0.017	Lb/ton of grain
PM <sub>10</sub>	0.0025	Lb/ton of grain

These silos are not a source of hazardous air pollutants.

Process P81, Stack S81 – Pullet House 1: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator

Process P82, Stack S82 – Pullet House 2: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator

Process P84, Stack S84 – Pullet House 4: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator

Process P89, Stack S89 – Processing Plant 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Process P91, Stack S91 – Layer Barn 1: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Process P92, Stack S92 – Layer Barn 2: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Process P93, Stack S93 – Layer Barn 3: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Process P94, Stack S94 – Layer Barn 4: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Process P95, Stack S95 – Layer Barn 5: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

Processes P81-P84 are diesel-fired emergency generators rated at 3.4 MMBtu per hour and 300 KW. Processes P89-P95 are diesel fired emergency generators rated at 5.2 MMBtu per hour and 500 KW. The emissions resulting from the diesel engines are based on emission factors listed under US EPA AP-42, Section 3.3 – Gasoline and Industrial Engines and assume 200 hours per year of total operation for each emergency generator based on the definition of a “restricted use reciprocating internal combustion engine” contained in s. NR 400.02(136m), Wis. Adm. Code. These diesel-fired emergency generators also emit hazardous air pollutants. However, because these generators are for emergency purposes only, the total HAP emissions from this equipment is not significant. Greenhouse gas emissions from these emergency generators are calculated using the emission factors in 40 CFR 98, Tables C-1 and C-2 and the global warming potentials in 40 CFR 98, Table A-1.

Process P21A-H, Stack S21A-H – Pullet House 1 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P22A-H, Stack S22A-H – Pullet House 2 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P24A-H, Stack S24A-H – Pullet House 4 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P31A-L, Stack S31A-L – Layer Barn 1 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P32A-L, Stack S32A-L – Layer Barn 2 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P33A-L, Stack S33A-L – Layer Barn 3 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P34A-L, Stack S34A-L – Layer Barn 4 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Process P35A-L, Stack S35A-L – Layer Barn 5 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each

Boiler B40, Stack S40 – Processing Plant Low Pressure Steam Natural Gas Boiler – 4.0 MMBtu/hr

Boiler B41, Stack S41 – Egg Wash Natural Gas Boiler 1 – 2.0 MMBtu/hr

Boiler B42, Stack S42 – Egg Wash Natural Gas Boiler 2 – 2.0 MMBtu/hr

Boiler B43, Stack S43 – Process Plant Natural Gas HVAC System 1 – 2.0 MMBtu/hr

Boiler B44, Stack S44 – Process Plant Natural Gas HVAC System 2 – 2.0 MMBtu/hr

The emissions from natural gas combustion in these emission units are based on emission factors from US EPA, AP-42, Section 1.4, except for PM<sub>10</sub> and PM<sub>2.5</sub> emissions. PM<sub>10</sub> and PM<sub>2.5</sub> emissions are calculated using emission factors of 0.52 lb/mmcf and 0.43 lb/mmcf, respectively, provided by Mr. Ron Myers from US EPA. These emission units also emit hazardous air pollutants. However, due to the relatively small total maximum heat input rating of these emission units, the total HAP emissions from this equipment is not significant. Greenhouse gas emissions from these emission units are calculated using the emission factors in 40 CFR 98, Tables C-1 and C-2 and the global warming potentials in 40 CFR 98, Table A-1.

Incinerator I02, Stack S02 – Layer Barn Crematory 2

Incinerator I03, Stack S03 – Pullet House Crematory 1

I02 is a Firelake Model A600 agricultural incinerator with natural gas burners rated at 0.613 MMBtu per hour and an incineration rate of 600 pounds per hour. I03 is a Firelake Model A400 agricultural incinerator with natural gas burners rated at 0.358 MMBtu per hour and an incineration rate of 400 pounds per hour. Particulate matter emissions are based on the highest

emission rate of 0.08 grains/dscf listed on the Firelake Certificate of Stack Air Quality for A & X series incineration/cremation systems. For these emission units, PM<sub>10</sub> and PM<sub>2.5</sub> emissions are assumed to be equivalent to total particulate matter emissions. The air flow of 187 scfm for the A400 series is based upon a 2001 stack test report provided by the equipment distributor. The air flow of 230 scfm for the A600 series is based upon an interpolation of stack test data for A400 series and the A850 series. Carbon monoxide emissions are based on the highest concentration of 50 ppmv listed on the Firelake Certificate of Stack Air Quality for A & X series incineration/cremation systems. NO<sub>x</sub>, VOC, and SO<sub>2</sub> emissions are based on emission factors from US EPA, AP-42, Section 1.4. Greenhouse gas emissions are based on the highest percentage of 9% by volume dry for carbon dioxide from the Firelake Certificate of Stack Air Quality for A & X series incineration/cremation systems. Dioxin emissions as equivalents are based on “Characterization of Emissions from an Animal Crematorium Shenandoah A850” for poultry. The emission rate has been adjusted to the A600 and A400 based on chamber capacity.

**Process P60, Stack S60 – 250,000 Bushel Feed Mill Surge Corn Storage Bin**

The corn storage bin has a maximum throughput of 26 tons of feed per hour. The maximum hourly particulate emission rates are based on the emission factors from US EPA, AP-42, Section 9.9.1 – Grain Elevators and Processes as listed below. The corn storage bin exhausts small amounts of particulate matter only when it is being loaded as the air in the bin is displaced. The particulate matter emissions from this bin are exhausted uncontrolled through mesh screens.

Pollutant	Emission Factor	Units
Particulate Matter (PM)	0.017	Lb/ton of grain
PM <sub>10</sub>	0.0025	Lb/ton of grain

**Process P61, Stacks S61, Control C61 – Feed Mill Operations (16 Ingredient Bins, 6 Loadout Bins, 8 Micro Ingredient Bins, 2 Indoor Receiving Pits)**

Based upon the application, the maximum throughput of the unloading operation and the throughput of all bins is approximately 104 tons of feed per hour. The maximum hourly particulate emission rates are based on the emission factors from US EPA, AP-42, Section 9.9.1 – Grain Elevators and Processes as listed below. These operations are controlled by a baghouse. The permittee has conservatively assumed a baghouse control efficiency for particulate matter of 98%.

Pollutant	Emission Factor	Units
Particulate Matter (PM)	0.017	Lb/ton of grain
PM <sub>10</sub>	0.0025	Lb/ton of grain

**APPLICABLE REQUIREMENTS**

This section describes the requirements that are applicable to the source. It includes emission unit and pollutant specific applicable requirements and associated compliance demonstration methods. Emission summary tables are included with references to supporting calculations and/or the source of emission information. As required by 40 CFR s. 70.5(c)(3)i., emission estimates sufficient to verify which requirements are applicable to the source are included in this analysis. Some pollutants subject to regulation under the Act do not currently have specific applicable emission limitations or standards, however they are considered when determining source status under programs, such as Part 70 and PSD, and when determining the applicability of requirements that are based on source status, such as CAM. One such pollutant is PM<sub>2.5</sub>. Based on definitions in ss. NR 400.02(123m) and (124), Wis. Adm. Code, direct PM<sub>2.5</sub> emissions cannot exceed PM<sub>10</sub> emissions. Since PM<sub>10</sub> and PM<sub>2.5</sub> have the same major source thresholds, emission estimates of PM<sub>10</sub> are sufficient for determining Part 70 and PSD source status and CAM applicability with respect to both PM<sub>2.5</sub> and PM<sub>10</sub>. When determining Part 70 source status for particulate matter, a stationary facility is a Part 70 major source if it emits or has the potential to emit, 100 tpy or more of PM<sub>10</sub> per s. NR 407.01(4)(a), Wis. Adm. Code.

- Fugitive F01 – Pullet House 1
- Fugitive F02 – Pullet House 2
- Fugitive F04 – Pullet House 4
- Fugitive F11 – Layer Barn 1
- Fugitive F12 – Layer Barn 2
- Fugitive F13 – Layer Barn 3
- Fugitive F14 – Layer Barn 4
- Fugitive F15 – Layer Barn 5

**NR 404 – Ambient Air Quality**

Fugitive emissions are defined under s. NR 400.02(71), Wis. Adm. Code, as any emission point within a facility other than a flue or stack. It is the Department’s policy that fugitive emissions not be included in a minor source air quality modeling analysis. For the purposes of air quality modeling, the Department considers the particulate matter emissions resulting from the

layer barns to be fugitive emissions which are accounted for in the background concentration of the modeling analysis.

*NR 415 – Control of Particulate Emissions*

Because these processes are considered fugitive emission source, they are subject to s. NR 415.04, Wis. Adm. Code. The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne under s. NR 415.04, Wis. Adm. Code. Compliance demonstration will be based on compliance with the facility-wide Fugitive Dust Control Plan.

*NR 424 – Control of Organic Compound Emissions from Process Lines*

Because no applicable emission limitation applies under chs. NR 419-423, Wis. Adm. Code, the applicability of ch. NR 424, Wis. Adm. Code, shall be examined. Under s. NR 424.03, Wis. Adm. Code, process lines emitting organic compounds shall control volatile organic compound emissions by at least 85% or latest available control techniques and operating practices demonstrating best current technology, as approved by the Department. Under s. NR 400.02(128), Wis. Adm. Code, a process line is defined as one or more actions or unit operations which must function simultaneously or in sequence in order to manufacture or modify a product. The Department does not believe that s. NR 424.03, Wis. Adm. Code, applies to pullet houses because no product is produced in these operations. The Department does not believe that s. NR 424.03, Wis. Adm. Code, applies to layer barns because the products produced in a layer barn – eggs – are produced through a biological process that does not involve a one or more actions or unit operations in order to manufacture or modify the product. In addition, The American Heritage College Dictionary defines manufacture as “to make or process (a raw material) into a finished product, esp. by a large scale industrial operation”, “to make or process (a product), esp. with industrial machines”, and “to create, produce, or turn out in a mechanical manner”. The product produced in the layer barns is a natural bodily function of the birds which does not require raw materials to finish into a product other than food and water for the bird. Nor are industrial machines used to directly make or process the product. In addition, the waste materials generated by the birds in the pullet houses and layer barns are not considered a product or part of actions or unit operations to produce fertilizer at this stage of the waste handling operations.

*NR 429.03 – Malodorous Emissions.*

These processes are subject to the requirements of s. NR 429.03, Wis. Adm. Code. Compliance demonstration will be based on compliance with the facility-wide Malodorous Emissions Control Plan.

*NR 431 – Control of Visible Emissions*

Any emission unit installed after 1972 may not cause or allow emissions of shade or density greater than number 1 of the Ringlemann chart or 20% opacity. The exceptions under s. NR 431.05, Wis. Adm. Code, may apply to these emission units. Compliance demonstration will be based on compliance with the facility-wide Fugitive Dust Control Plan.

Process P01A-B, Stack S01A-B – Pullet House 1 – Two Feed Storage Bins  
 Process P02A-B, Stack S02A-B – Pullet House 2 – Two Feed Storage Bins  
 Process P03A, Stack S03A – Pullet House 3 – One Feed Storage Bin  
 Process P04A-B, Stack S04A-B – Pullet House 4 – Two Feed Storage Bins  
 Process P11A-D, Stack S11A-D – Layer Barn 1 – Four Feed Storage Bins  
 Process P12A-D, Stack S12A-D – Layer Barn 2 – Four Feed Storage Bins  
 Process P13A-D, Stack S13A-D – Layer Barn 3 – Four Feed Storage Bins  
 Process P14A-D, Stack S14A-D – Layer Barn 4 – Four Feed Storage Bins  
 Process P15A-D, Stack S15A-D – Layer Barn 5 – Four Feed Storage Bins  
Process P60, Stack S60 – 250,000 Bushel Feed Mill Surge Corn Storage Bin

*NR 404 – Ambient Air Quality*

To ensure compliance with the applicable National Ambient Air Quality Standards under s. NR 404.04(8), Wis. Adm. Code, or increment under s. NR 404.05(3)(a), Wis. Adm. Code, the PM<sub>10</sub> emissions from these emission units were limited to the emission rates contained in the draft permit based on refined air quality modeling. See the Air Quality Review section for more information. Compliance demonstration will be based on a calculation of the maximum hourly emissions from each of these processes and compliance with the facility-wide Fugitive Dust Control Plan.

*NR 415 – Control of Particulate Emissions*

Because these processes will be constructed after April 1, 1972, the applicable particulate matter emission limit is the more restrictive of the process weight rate equation under s. NR 415.05(2), Wis. Adm. Code and the direct source limit of 0.40

pounds of particulate matter per 1,000 pounds of exhaust gas under s. NR 415.05(1)(n), Wis. Adm. Code. Compliance demonstration will be based on a calculation of the maximum hourly emissions from each of these processes and compliance with the facility-wide Fugitive Dust Control Plan.

#### *NR 431 – Control of Visible Emissions*

Each of these processes will be constructed or last modified after April 1, 1972, so they are each subject to a visible emission limit of 20% opacity under s. NR 431.05, Wis. Adm. Code. Compliance demonstration will be based on the use of a Fugitive Dust Control Plan.

#### *40 CFR 60, Subpart DD & NR 440.47 – Standards of Performance for Grain Elevator*

The permanent grain storage capacity for this facility is approximately 0.815 million bushels. The facility does not qualify as a grain terminal elevator under this regulation because the permanent storage capacity does not exceed 88,100 m<sup>3</sup> (ca. 2.5 million U.S. bushels). The facility is also not considered to be a grain storage elevator because while the permanent storage capacity of the facility is equal to or greater than 35,200 m<sup>3</sup> (ca. 1 million bushels), the facility is not considered to be a wheat flour mill, a wet corn mill, a dry corn mill (human consumption), a rice mill, or a soybean oil extraction plant.

#### Process P61, Stacks S61, Control C61 – Feed Mill Operations (16 Ingredient Bins, 6 Loadout Bins, 8 Micro Ingredient Bins, 2 Indoor Receiving Pits)

##### *NR 404 – Ambient Air Quality*

To ensure compliance with the applicable National Ambient Air Quality Standards under s. NR 404.04(8), Wis. Adm. Code, or increment under s. NR 404.05(3)(a), Wis. Adm. Code, the PM<sub>10</sub> emissions from these emission units were limited to the emission rates contained in the draft permit based on refined air quality modeling. See the Air Quality Review section for more information. Compliance demonstration will be based on the use of a baghouse to control particulate matter emissions.

##### *NR 415 – Control of Particulate Emissions*

Because these processes will be constructed after April 1, 1972, the applicable particulate matter emission limit is the more restrictive of the process weight rate equation under s. NR 415.05(2), Wis. Adm. Code and the direct source limit of 0.40 pounds of particulate matter per 1,000 pounds of exhaust gas under s. NR 415.05(1)(n), Wis. Adm. Code. Compliance demonstration will be based on the use of a baghouse to control particulate matter emissions.

##### *NR 431 – Control of Visible Emissions*

Each of these processes will be constructed or last modified after April 1, 1972, so they are each subject to a visible emission limit of 20% opacity under s. NR 431.05, Wis. Adm. Code. Compliance demonstration will be based on the use of a baghouse to control particulate matter emissions.

#### *40 CFR 60, Subpart DD & NR 440.47 – Standards of Performance for Grain Elevator*

The permanent grain storage capacity for this facility is approximately 0.815 million bushels. The facility does not qualify as a grain terminal elevator under this regulation because the permanent storage capacity does not exceed 88,100 m<sup>3</sup> (ca. 2.5 million U.S. bushels). The facility is also not considered to be a grain storage elevator because while the permanent storage capacity of the facility is equal to or greater than 35,200 m<sup>3</sup> (ca. 1 million bushels), the facility is not considered to be a wheat flour mill, a wet corn mill, a dry corn mill (human consumption), a rice mill, or a soybean oil extraction plant.

Process P81, Stack S81 – Pullet House 1: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P82, Stack S82 – Pullet House 2: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P84, Stack S84 – Pullet House 4: 3.4 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P89, Stack S89 – Processing Plant 5.2 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P91, Stack S91 – Layer Barn 1: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P92, Stack S92 – Layer Barn 2: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P93, Stack S93 – Layer Barn 3: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P94, Stack S94 – Layer Barn 4: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator  
Process P95, Stack S95 – Layer Barn 5: 5.2 MMBtu per Hour Diesel-Fired Emergency Generator

##### *All Pollutants*

Each of these emission units is limited to 200 hours of total operation per year (testing and emergency operation combined) based on the definition of a “restricted use reciprocating internal combustion engine” contained in s. NR 400.02(136m), Wis. Adm. Code.

##### *NR 485.055 - Particulate emission limit for gasoline and diesel internal combustion engines*

Each of these emission units is subject to particulate matter restrictions under s. NR 485.055, Wis. Adm. Code. No person may cause, allow or permit the emissions of particulate matter to the ambient air from stationary or semistationary gasoline or diesel powered internal combustion reciprocating engines in excess of 0.50 pound of

particulate per million Btu heat input. Based on AP-42 emission factors, emission calculations demonstrate that each of these emergency diesel generators will be in compliance at all times with this requirement. Compliance demonstration will be based on fuel use restrictions.

#### *NR 431 – Visible Emissions*

Any emission unit installed after 1972 may not cause or allow emissions of shade or density greater than number 1 of the Ringlemann chart or 20% opacity. The exceptions under s. NR 431.05, Wis. Adm. Code, may apply to these emissions units. These emission units are not expected to exceed this standard because they only combust diesel, which is considered a clean burning fuel. Compliance demonstration will be based on fuel use restrictions.

#### *40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Each of these engine generators is subject to this rule. The rule requires that owner or operators of 2007 model year or later emergency stationary compression ignition (CI) internal combustion engines (ICE) with a maximum engine power greater than 37 kW (50 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines comply with the following certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112:

- Nitrogen Oxides and Non-methane Hydrocarbons (combined): 4.0 g/KW-hr;
- Carbon Monoxide: 3.5 g/KW-hr; and
- Particulate matter: 0.20 g/KW-hr.

Additionally, exhaust opacity from the engine may not exceed the following limitations in 40 CFR 89.113:

- 20% during acceleration mode;
- 15% during the lugging mode; and
- 50% during peaks in either acceleration or lugging modes.

Compliance demonstration will be based on the requirements under the federal regulation.

#### *40 CFR 60, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

An affected source that is a new or reconstructed stationary RICE located at an area source or a new or reconstructed emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at an area source of HAP emissions must meet the requirements in 40 CFR part 63, subpart ZZZZ by meeting the requirements of 40 CFR part 60, subpart IIII for compression ignition engines. No further requirements apply for such engines under 40 CFR part 63, subpart ZZZZ.

Process P21A-H, Stack S21A-H – Pullet House 1 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P22A-H, Stack S22A-H – Pullet House 2 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P24A-H, Stack S24A-H – Pullet House 4 Heating Units – 8 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P31A-L, Stack S31A-L – Layer Barn 1 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P32A-L, Stack S32A-L – Layer Barn 2 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P33A-L, Stack S33A-L – Layer Barn 3 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P34A-L, Stack S34A-L – Layer Barn 4 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Process P35A-L, Stack S35A-L – Layer Barn 5 Heating Units – 12 Natural Gas Heaters @ 0.225 MMBtu/hr Each  
 Boiler B40, Stack S40 – Processing Plant Low Pressure Steam Natural Gas Boiler – 4.0 MMBtu/hr  
 Boiler B41, Stack S41 – Egg Wash Natural Gas Boiler 1 – 2.0 MMBtu/hr  
 Boiler B42, Stack S42 – Egg Wash Natural Gas Boiler 2 – 2.0 MMBtu/hr  
 Boiler B43, Stack S43 – Process Plant Natural Gas HVAC System 1 – 2.0 MMBtu/hr  
Boiler B44, Stack S44 – Process Plant Natural Gas HVAC System 2 – 2.0 MMBtu/hr

#### *NR 404 – Ambient Air Quality*

These processes, other than Boilers B40, B41, and B42, are considered insignificant emission units under s. NR 407.05(4)(c)9.k., Wis. Adm. Code, as they are convenience space heating units with heat input capacity of less than 5 million Btu per hour that burn gaseous fuels. It is Department policy not to include insignificant emission units in

any refined air quality modeling analysis. The construction permit will not contain any specific requirements for these emission units in order to meet increment or NAAQS, as applicable.

To ensure compliance with the applicable National Ambient Air Quality Standards under s. NR 404.04(8), Wis. Adm. Code, or increment under s. NR 404.05(3)(a), Wis. Adm. Code, the PM<sub>10</sub> emissions from Boilers B40, B41, and B42 were limited to the emission rates contained in the draft permit based on refined air quality modeling. See the Air Quality Review section for more information. Compliance demonstration will be based on fuel use restrictions.

#### *NR 415 - Control of Particulate Emissions*

Boilers B40 to B44 are subject to particulate matter restrictions under s. NR 415.06(2)(a), Wis. Adm. Code. Any fuel-burning installation of 250 MMBtu per hour or less installed after 1972, shall have a maximum emission from any stack of 0.15 pounds of particulate matter per MMBtu heat input. Compliance demonstration for Boilers B40, B41, and B42, which will be included as significant emission units in the permit, will be based on fuel use restrictions.

#### *NR 431 – Control of Visible Emissions*

Any emission unit installed after 1972 may not cause or allow emissions of shade or density greater than number 1 of the Ringlemann chart or 20% opacity. The exceptions under s. NR 431.05, Wis. Adm. Code, apply to these emission units. Compliance demonstration for Boilers B40, B41, and B42 will be based on fuel use restrictions.

#### *40 CFR 60 – New Source Performance Standards*

Boilers B40, B41 and B42 are not subject to 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (s. NR 440.207, Wis. Adm. Code) because the maximum heat input capacity of each boiler is less than 10 MMBtu per hour. The other processes listed in this section do not meet the definition of a steam generating unit.

#### *40 CFR 63 – National Emission Standards for Hazardous Air Pollutants*

Because Boilers B40, B41 and B42 only combust natural gas and the facility is considered an area source of federal HAPs, 40 CFR 63 subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial Commercial, and Institutional Boilers Area Sources is not applicable to these boilers. The other processes listed in this section do not meet the definition of a boiler.

Incinerator I02, Stack S02 – Layer Barn Crematory 2

Incinerator I03, Stack S03 – Pullet House Crematory 1

#### *NR 404 – Ambient Air Quality*

To ensure compliance with the applicable National Ambient Air Quality Standards under s. NR 404.04(8), Wis. Adm. Code, or increment under s. NR 404.05(3)(a), Wis. Adm. Code, the PM<sub>10</sub> emissions from these processes were limited to the emission rates contained in the draft permit based on refined air quality modeling. See the Air Quality Review section for more information. Compliance demonstration will be based on fuel use restrictions.

#### *NR 415 - Control of Particulate Emissions*

These emission units are subject to particulate matter restrictions under s. NR 415.07(2), Wis. Adm. Code. The A600 incinerator, which is rated at over 500 pounds of waste per hour and less than 4,000 pounds of waste per hour is subject to a particulate matter emission limitation of 0.20 pounds of particulate per 1,000 pounds of exhaust gas. The A400 incinerator, which is rated at 500 pounds of waste per hour or less is subject to a particulate matter emission limitation of 0.30 pounds of particulate per 1,000 pounds of exhaust gas.

#### *NR 419.03 – Control of Organic Compound Emissions*

These processes are subject to the requirements of s. NR 419.03, Wis. Adm. Code. Compliance demonstration will be based on the monitoring and recording of the secondary chamber temperature and records of operation and maintenance of the incinerators in compliance with the manufacturer's recommendations.

#### *NR 429.03 – Malodorous Emissions.*

These processes are subject to the requirements of s. NR 429.03, Wis. Adm. Code. Compliance demonstration will be based on the monitoring and recording of the secondary chamber temperature and records of operation and maintenance of the incinerators in compliance with the manufacturer's recommendations.

#### *NR 431 – Control of Visible Emissions*

Any emission unit installed after 1972 may not cause or allow emissions of shade or density greater than number 1 of the Ringlemann chart or 20% opacity. The exceptions under s. NR 431.05, Wis. Adm. Code, apply to these emission units.

#### 40 CFR 60 – New Source Performance Standards

These emission units are not subject to 40 CFR 60, Subpart CCCC – Standards of Performance for Commercial and Industrial Solid Waste Incineration Units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste as defined in 40 CFR §60.2265 are not subject to this subpart if the facility meets the two requirements specified below:

- (1) Notify the Administrator of US EPA that the unit meets these criteria; and
- (2) Keep records on a calendar quarter basis of the weight of pathological waste and the weight of all other fuels and wastes burned in the unit.

Under 40 CFR 60.2265, pathological waste is defined as waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

These emission units are not subject to 40 CFR 60, Subpart EEEE – Standards of Performance for Other Solid Waste Incineration Units. Institutional waste incineration units or very small municipal waste combustion units are excluded from this regulation if they burn 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste as defined in 40 CFR §60.3078 and the owner/operator of the unit notifies the Administrator of US EPA that the unit meets these criteria. Under 40 CFR 60.3078, pathological waste is defined as waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

## HAZARDOUS AIR POLLUTANT REVIEW

### A. State HAPs (NR 445):

There are several state hazardous air pollutants expected to be emitted from the operation of the facility. The state hazardous air pollutants emitted from the following processes are exempt from regulation under ch. NR 445, Wis. Adm. Code:

The state HAPs resulting from the combustion of group 1 virgin fossil fuels, such as natural gas, propane, or distillate fuel oil, are exempt from regulation by ch. NR 445, Wis. Adm. Code, under s. NR 445.07(1), Wis. Adm. Code. This exemption affects fuel combusting emission units, such as the boilers, heaters, HVAC units, and the emergency generators.

Under s. 285.28, Wis. Stats., the Department may not regulate the emission of hazardous air contaminants associated with agricultural waste except to the extent required by federal law. This statute was originally promulgated by 2011 Senate Bill 138. A review of the documents supporting 2011 Senate Bill 138 indicates that the Joint Committee for Review of Administrative Rules (JCRAR) was concerned about the application of ch. NR 445, Wis. Adm. Code, to agricultural operations. They believed that “chapter NR 445 was created in the 1980s to regulate emissions from smoke stacks” and that it was “not appropriate to regulate something that cannot be effectively measured” (meaning fugitive agricultural emissions). Thus, the Department does not regulate the emissions of any ch. NR 445, Wis. Adm. Code, Table A, B, or C pollutants that may be directly related to agricultural waste. This exemption affects the state hazardous air pollutant emission that may result from manure generation in the pullet houses and layer barns. The total non-exempt potential emissions of HAPs from the facility are summarized in the table below. This table also lists the thresholds (annual and/or 1-hour/24-hour average) for each HAP for each stack height category. The table also indicates which pollutants are exempt from ch. NR 445, Wis. Adm. Code, review because they are directly associated with agricultural waste.

Pollutant	Stack Height Class	E <sub>Unobstructed</sub>		4×(E <sub>obstructed</sub> + E <sub>fugitive</sub> )		E <sub>Total</sub>		Ch. NR 445 Thresholds (lb/hr or lb/yr)	
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	1-hr/24-hr avg.	Annual
Ammonia (7664-41-7) s EXEMPT	<25	--	--	302	2,645,809	302	2,645,809	0.935	17,769
Benzene (71-43-2) sf	<25	--	2.99	--	--	--	2.99	--	228
Hydrogen Sulfide (7783-06-4) s EXEMPT	<25	--	--	2.12	--	2.12	--	0.749	--
TCDD (2,3,7,8-Tetrachlorodibenzo-p-dioxin), as equivalents (17446-01-6) sf	<25	--	2.3E-06	--	--	--	2.3E-06	--	1.0E-04

s = state hazardous air pollutant; f = Federal hazardous air pollutant

To demonstrate the source is in compliance for a HAP regulated by ch. NR 445, Wis. Adm. Code, the total non-exempt

potential emissions of the HAP (or air toxic) for the entire facility must either be less than stack thresholds listed in Tables A, B or C in the chapter or meet applicable emissions limitations. To check to see if emissions are less than stack thresholds, first emissions for each stack height category is calculated. The calculated values are then compared to the corresponding values listed in Tables A, B or C of ch. NR 445, Wis. Adm. Code, for the pollutant and the particular stack height category. If the total for each stack height category is less than the amount listed in the table for each stack height category, then the source is in compliance with the ch. NR 445, Wis. Adm. Code, requirements. If the calculated emissions exceed the threshold for one or more of the stack categories then **all emissions** must be included in a determination to see if applicable emission limitations are being met. There are 4 stack height categories in the rule — stacks < 25 ft, 25 ft < stack < 40 ft, 40 ft < stack < 75 ft, and stacks > 75 ft.

Comparing the total non-exempt potential emission rates for each HAP to its corresponding ch. NR 445, Wis. Adm. Code, threshold values, it appears the threshold values will not be exceeded for any state HAPs that are not considered exempt from regulation under ch. NR 445, Wis. Adm. Code. Thus, this facility is in compliance with ch. NR 445, Wis. Adm. Code.

## **B. Federal HAPs (MACT, GACT, NESHAP):**

### *40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (NESHAP)*

Because the compression ignition emergency generators are subject to regulation under 40 CFR 60, an affected source must meet the requirements of 40 CFR 63 subpart ZZZZ by meeting the requirements of 40 CFR 60 subpart III.

## **AIR QUALITY REVIEW**

Section 285.63(1)(b), Wis. Stats. allows the department to approve a permit application if it finds the source will not cause or exacerbate a violation of any ambient air quality standard or ambient air increment. See the Criteria for Permit Approval section for additional information and other criteria for permit approval. This section describes the department's finding under s. 285.63(1)(b), Wis. Stats.

Processes P81, P82, P84, P89, and P91-P95 (Emergency Generators) are intermittent sources because they do not have a set operating schedule, operate for short periods of time during the year (generally outside of the facilities' control) and do not contribute to the normal operation of the facility. These intermittent emissions units are not included in the dispersion modeling analysis described below.

The combustion units, pullet houses, and layer barns at this facility emit volatile organic compounds. Volatile organic compounds are precursors to ozone. Ozone is a regional pollutant which is formed in the atmosphere through complex chemical reactions. There is no approved dispersion model for predicting the impact VOC emissions from direct stationary sources will have on ozone concentrations. There are no ambient air quality standards specifically for VOCs. Therefore, dispersion modeling of VOC emissions from direct stationary sources is not performed.

The combustion units at this facility emit PM<sub>2.5</sub>. For the reasons described in Appendix B of the "Wisconsin Air Dispersion Modeling Guidelines", dated March 2018, the Department has concluded that direct PM<sub>2.5</sub> emissions from existing sources, minor new sources, and minor modifications of sources do not cause or exacerbate violation of the PM<sub>2.5</sub> air quality standard or increment. This conclusion and the information contained in Appendix B of the "Wisconsin Air Dispersion Modeling Guidelines" serves as the Department's finding pursuant to s. 285.63(1)(b), Wis. Stats for the PM<sub>2.5</sub> air quality standard and increment and sets forth the legal and factual basis for the draft permit conditions.

The combustion units at this facility emit nitrogen oxides (NO<sub>x</sub>). For the reasons described in Appendix C of the "Wisconsin Air Dispersion Modeling Guidelines", dated March 2018, the Department has concluded that direct NO<sub>x</sub> emissions from stationary sources that are not large and comparatively steady sources of direct NO<sub>x</sub> emissions, do not cause or exacerbate violation of the 1-hour NO<sub>2</sub> ambient air quality standard. This conclusion and the information contained in Appendix C of the "Wisconsin Air Dispersion Modeling Guidelines" serves as the Department's finding pursuant to s. 285.63(1)(b), Wis. Stats for the 1-hour NO<sub>2</sub> air quality standard and sets forth the legal and factual basis for the draft permit conditions. Large and comparatively steady sources of NO<sub>x</sub> emissions, include sources with one or more individual combustion units with a maximum heat input rating of 250

MMBtu/hr or more. This facility does not include individual combustion units with a maximum heat input of 250 MMBtu/hr or more and the dispersion modeling analysis described below does not assess the impact of these emissions units on 1-hour NO<sub>2</sub> concentrations.

Dispersion modeling of annual NO<sub>x</sub> emissions is an effective tool for predicting a source's impact on ambient annual NO<sub>x</sub> emissions as explained in Appendix C of the "Wisconsin Air Dispersion Modeling Guidelines". The dispersion modeling analysis described below assesses the impact of the combustion units at this facility on annual NO<sub>2</sub> concentrations.

The results of the dispersion modeling are summarized in a memo dated September 6, 2018 and are shown below. The dispersion modeling predicts that the source impact will not cause or exacerbate a violation of the ambient air quality standards/ambient air increments, taking into consideration background concentrations. The assumptions used in the dispersion modeling, including emission rates and stack parameters are summarized below. In addition to the applicable limits the following additional requirements were assumed in the dispersion modeling and are included in the draft permit to assure the ambient air quality standards and increments will be protected.

#### Introduction

A dispersion modeling analysis was completed to assess the impact to ambient air of criteria pollutants. The analysis was performed in support of a construction permit. The facility has a physical location of: N5505 Crossman Road, City of Lake Mills, Jefferson County, Wisconsin. PSD baselines HAVE been set in Jefferson County.

#### Modeling Analysis

- Jonathan Wright supplied the emission parameters used in this analysis. Building dimensions were determined using BPIP-PRIME with measurements taken on plot plans provided with the application. Please refer to the source tables for details.
- Five years (2011-2015) of preprocessed meteorological data was used in this analysis. The surface data was collected in Madison (MSN), and the upper air meteorological data originated in Green Bay.
- The AERMIC (AMS/EPA Regulatory Model Improvement Committee) Model (AERMOD) was also used in the analysis. The model used rural dispersion coefficients with the regulatory default options. These allow for calm wind and missing data correction, buoyancy induced dispersion, and building downwash including recirculation cavity effects.
- The receptors used in this analysis consisted of a rectangular grid of 3,077 points with 25+-meter resolution extending 900 + meters from the emission sources. Points on top of facility buildings or inside fenced areas were not considered. Receptor elevations were derived from AERMAP using the National Elevation Dataset.
- Each Layer Barn facilitates one or more storage bins. However, only one storage bin can be filled at any one time. The modeling analysis reflects all storage bins being loaded simultaneously resulting in an overly conservative analysis.
- Regional background concentrations included in the analysis can be found at the following link: <http://dnr.wi.gov/topic/AirPermits/documents/AQBackgroundConcentrationGuidance.pdf>

#### Model Results

The results of the dispersion modeling analysis indicate that all air quality standards will be met assuming the emission rates and stack parameters listed in the source tables.

Modeling Analysis Results (All Concentrations in µg/m <sup>3</sup> )			
	PM <sub>10</sub> – 24 Hour	PM <sub>10</sub> – Annual	NO <sub>2</sub> – Annual
Impact of Increment consuming sources	25	7	2
PSD Increment	30	17	25
% Increment Consumed	83	41	8
Total Concentration (Modeled plus Background)	51	-	13

NAAQS	150	-	100
% NAAQS	34	-	13

### Conclusion

The results of the modeling analysis demonstrate that the applicable air quality standards will be satisfied assuming the emissions rates and stack parameters listed in the source tables.

Daybreak Point Source Stack Parameters**						
Source ID	LOCATION (UTM83)	HEIGHT (M)	HEIGHT (FT)	DIAMETER (M)	VELOCITY (M/S)	TEMP (K)
I01A	342035, 4766910	10.67	35.2	0.51	1.63	949.77
I01B	342035, 4767108	7.16	23.6	2.54	0.00	949.77
I01C	341512, 4767330	7.16	23.6	2.54	0.00	949.77
S01A1	341811.3, 4767119.63	7.16	23.6	2.54	0.00	294.21
S01A2	341811.3, 4767118.63	7.16	23.6	2.54	0.00	294.21
S01A3	341812.317, 4767100.92	7.16	23.6	2.54	0.00	294.21
S01A4	341812.366, 4767098.35	7.16	23.6	2.54	0.00	294.21
S01B1	341811.66, 4767069.65	7.16	23.6	2.54	0.00	294.21
S01B2	341811.66, 4767067.65	7.16	23.6	2.54	0.00	294.21
S01B3	341811.66, 4767049.65	7.16	23.6	2.54	0.00	294.21
S01B4	341811.66, 4767047.65	7.16	23.6	2.54	0.00	294.21
S01C1	341810.59, 4767020.72	7.16	23.6	2.54	0.00	294.21
S01C2	341810.59, 4767018.72	7.16	23.6	2.54	0.00	294.21
S01C3	341810.59, 4767010.72	7.16	23.6	2.54	0.00	294.21
S01C4	341810.59, 4767008.72	7.16	23.6	2.54	0.00	294.21
S01D1	341805.63, 4766975.7	7.16	23.6	2.54	0.00	294.21
S01D2	341805.63, 4766973.7	7.16	23.6	2.54	0.00	294.21
S01D3	341805.63, 4766965.7	7.16	23.6	2.54	0.00	294.21
S01D4	341805.63, 4766963.7	7.16	23.6	2.54	0.00	294.21
S01E1	341804.57, 4766928.9	7.16	23.6	2.54	0.00	294.21
S01E2	341804.57, 4766926.9	7.16	23.6	2.54	0.00	294.21
S01E3	341804.57, 4766918.9	7.16	23.6	2.54	0.00	294.21
S01E4	341804.57, 4766916.9	7.16	23.6	2.54	0.00	294.21
S01F1	341031.338, 4767237.04	5.18	17.1	2.54	0.00	294.21
S01F2	341042.75, 4767236.51	5.18	17.1	2.54	0.00	294.21
S01G1	341106.563, 4767238.88	5.18	17.1	2.54	0.00	294.21
S01G2	341108.563, 4767238.88	5.18	17.1	2.54	0.00	294.21
S01H1	341190.962, 4767292.09	5.18	17.1	2.54	0.00	294.21
S01H2	341189.601, 4767297.51	5.18	17.1	2.54	0.00	294.21
S01I1	341216.648, 4767393	6.10	20.1	2.54	0.00	294.21
S01I2	341211.889, 4767390.29	6.10	20.1	2.54	0.00	294.21

\*\* The source parameters in the table were used for modeling purposes, based on conversion from English units. Refer to the permit application forms or submittals in support of the application for the original English unit parameters.

S02A	342014.727, 4766910.85	8.23	27.2	0.51	1.63	421.99
S02B	342014.252, 4767109.3	8.23	27.2	0.51	1.16	421.99
S03	341501.036, 4767354.47	14.63	48.3	0.51	1.16	449.77
S06A	341530, 4767164	20.42	67.4	0.51	1.16	294.21
S06B	341584, 4767164	12.2	40	1.7	1.16	294.21
S08	342019, 4766900	7.16	23.6	2.54	0.00	294.21
S09A	341560, 4767578	14.63	48.3	0.51	1.16	294.21

Daybreak Point Source Stack Parameters		
Source ID	NO <sub>x</sub> Rate (lbs/hr)	PM <sub>10</sub> Rate (lbs/hr)
I01A	0.06	0.16
I01B	0.06	0.16
I01C	0.04	0.13
S01A1	0.00	0.03
S01A2	0.00	0.03
S01A3	0.00	0.03
S01A4	0.00	0.03
S01B1	0.00	0.03
S01B2	0.00	0.03
S01B3	0.00	0.03
S01B4	0.00	0.03
S01C1	0.00	0.03
S01C2	0.00	0.03
S01C3	0.00	0.03
S01C4	0.00	0.03
S01D1	0.00	0.03
S01D2	0.00	0.03
S01D3	0.00	0.03
S01D4	0.00	0.03
S01E1	0.00	0.03
S01E2	0.00	0.03
S01E3	0.00	0.03
S01E4	0.00	0.03
S01F1	0.00	0.03
S01F2	0.00	0.03
S01G1	0.00	0.03
S01G2	0.00	0.03
S01H1	0.00	0.03
S01H2	0.00	0.03
S01I1	0.00	0.03
S01I2	0.00	0.03
S02A	0.40	0.00
S02B	0.20	0.01
S03	0.55	0.68
S06A	0.00	0.06
S06B	0.00	0.50
S08	0.00	0.04

S09A	0.00	0.01
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NO<sub>x</sub> → NO<sub>2</sub> via ARM2

DAY Stack/Process Descriptions					
Source ID	Release Type	Description	Source ID	Release Type	Description
I01A	DEFAULT	Cremator/Incinerator	S01C1	HORIZONTAL	Layer Barn Storage Bin
I01B	DEFAULT	Cremator/Incinerator	S01C2	HORIZONTAL	Layer Barn Storage Bin
I01C	DEFAULT	Cremator/Incinerator	S01C3	HORIZONTAL	Layer Barn Storage Bin
S01A <sub>1</sub>	HORIZONTAL	Layer Barn Storage Bin	S01C4	HORIZONTAL	Layer Barn Storage Bin
S01A <sub>2</sub>	HORIZONTAL	Layer Barn Storage Bin	S01D1	HORIZONTAL	Layer Barn Storage Bin
S01A <sub>3</sub>	HORIZONTAL	Layer Barn Storage Bin	S01D2	HORIZONTAL	Layer Barn Storage Bin
S01A <sub>4</sub>	HORIZONTAL	Layer Barn Storage Bin	S01D3	HORIZONTAL	Layer Barn Storage Bin
S01B <sub>1</sub>	HORIZONTAL	Layer Barn Storage Bin	S01D4	HORIZONTAL	Layer Barn Storage Bin
S01B <sub>2</sub>	HORIZONTAL	Layer Barn Storage Bin	S01E1	HORIZONTAL	Layer Barn Storage Bin
S01B <sub>3</sub>	HORIZONTAL	Layer Barn Storage Bin	S01E2	HORIZONTAL	Layer Barn Storage Bin
S01B <sub>4</sub>	HORIZONTAL	Layer Barn Storage Bin	S01E3	HORIZONTAL	Layer Barn Storage Bin
S01E <sub>4</sub>	HORIZONTAL	Layer Barn Storage Bin	S03	DEFAULT	Corn Dryer
S01F1	HORIZONTAL	Layer Barn Storage Bin	S06A	HORIZONTAL	Feed Mill Bin
S01F2	HORIZONTAL	Layer Barn Storage Bin	S06B	DEFAULT	Feed Mill Bin
S01G <sub>1</sub>	HORIZONTAL	Layer Barn Storage Bin	S08	HORIZONTAL	Manure Transfer
S01G <sub>2</sub>	HORIZONTAL	Layer Barn Storage Bin	S09A	DEFAULT	Feed Transfer
S01H <sub>1</sub>	HORIZONTAL	Layer Barn Storage Bin			
S01H <sub>2</sub>	HORIZONTAL	Layer Barn Storage Bin			
S01I1	HORIZONTAL	Layer Barn Storage Bin			
S01I2	HORIZONTAL	Layer Barn Storage Bin			
S02A	DEFAULT	Steam Boiler			
S02B	DEFAULT	Egg wash boiler			

**EMISSIONS FROM NEW (OR MODIFIED) EQUIPMENT.**

**A. Emissions From New Equipment or Modification - Criteria Pollutants.**

Process	PM		PM <sub>10</sub>		PM <sub>2.5</sub>		NO <sub>x</sub>		CO		SO <sub>2</sub>		VOC		GHG
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
F01	--	--	--	--	--	--	--	--	--	--	--	--	0.75	3.29	--

## A. Emissions From New Equipment or Modification - Criteria Pollutants.

Process	PM		PM <sub>10</sub>		PM <sub>2.5</sub>		NO <sub>x</sub>		CO		SO <sub>2</sub>		VOC		GHG	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY	
F02	--	--	--	--	--	--	--	--	--	--	--	--	0.75	3.29	--	
F04	--	--	--	--	--	--	--	--	--	--	--	--	0.75	3.29	--	
F11	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--	
F12	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--	
F13	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--	
F14	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--	
F15	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--	
I02	0.16	0.69	0.16	0.69	0.16	0.69	0.06	0.27	0.05	0.23	3.7E-04	1.6E-03	3.4E-03	1.5E-02	620	
I03	0.13	0.56	0.13	0.56	0.13	0.56	0.04	0.16	0.04	0.18	2.1E-04	9.4E-04	2.0E-03	8.6E-03	504	
P01	0.37	6.8E-02	5.5E-02	1.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P02	0.37	6.8E-02	5.5E-02	1.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P03	0.19	6.8E-02	2.8E-02	5.0E-03	--	--	--	--	--	--	--	--	--	--	--	
P04	0.37	6.8E-02	5.5E-02	1.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P11	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P12	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P13	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P14	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P15	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--	
P21	1.4E-02	6.0E-02	9.4E-04	4.1E-03	7.7E-04	3.4E-03	0.18	0.79	0.15	0.66	1.1E-03	4.7E-03	9.9E-03	4.3E-02	952	
P22	1.4E-02	6.0E-02	9.4E-04	4.1E-03	7.7E-04	3.4E-03	0.18	0.79	0.15	0.66	1.1E-03	4.7E-03	9.9E-03	4.3E-02	952	
P24	1.4E-02	6.0E-02	9.4E-04	4.1E-03	7.7E-04	3.4E-03	0.18	0.79	0.15	0.66	1.1E-03	4.7E-03	9.9E-03	4.3E-02	952	
P31	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428	
P32	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428	
P33	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428	
P34	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428	
P35	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428	
B40	3.0E-02	0.13	2.1E-03	9.1E-03	1.7E-03	7.5E-03	0.40	1.75	0.34	1.47	2.4E-03	1.1E-02	2.2E-02	9.6E-02	2,115	
B41	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058	
B42	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058	
B43	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058	
B44	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058	
P60	0.44	1.94	0.07	0.28	--	--	--	--	--	--	--	--	--	--	--	
P61*	0.50	2.19	0.50	2.19	--	--	--	--	--	--	--	--	--	--	--	
P81	1.05	0.11	1.05	0.11	1.05	0.11	15.0	1.50	3.23	0.32	0.99	0.10	1.22	0.12	56	
P82	1.05	0.11	1.05	0.11	1.05	0.11	15.0	1.50	3.23	0.32	0.99	0.10	1.22	0.12	56	
P84	1.05	0.11	1.05	0.11	1.05	0.11	15.0	1.50	3.23	0.32	0.99	0.10	1.22	0.12	56	
P89	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85	
P91	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85	
P92	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85	
P93	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85	
P94	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85	
P95	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85	
<b>Total</b>	<b>30.4</b>	<b>57.0</b>	<b>17.5</b>	<b>18.5</b>	<b>13.1</b>	<b>2.60</b>	<b>186</b>	<b>32.2</b>	<b>42.0</b>	<b>15.7</b>	<b>12.0</b>	<b>1.28</b>	<b>24.8</b>	<b>45.0</b>	<b>18,145</b>	
MTE	F01	--	--	--	--	--	--	--	--	--	--	--	0.75	3.29	--	
	F02	--	--	--	--	--	--	--	--	--	--	--	0.75	3.29	--	
	F04	--	--	--	--	--	--	--	--	--	--	--	0.75	3.29	--	
	F11	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--
	F12	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--
	F13	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--
	F14	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--
F15	2.21	9.67	0.61	2.67	--	--	--	--	--	--	--	--	1.50	6.57	--	

**A. Emissions From New Equipment or Modification - Criteria Pollutants.**

Process	PM		PM <sub>10</sub>		PM <sub>2.5</sub>		NOx		CO		SO <sub>2</sub>		VOC		GHG
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	TPY
I02	0.16	0.69	0.16	0.69	0.16	0.69	0.06	0.27	0.05	0.23	3.7E-04	1.6E-03	3.4E-03	1.5E-02	620
I03	0.13	0.56	0.13	0.56	0.13	0.56	0.04	0.16	0.04	0.18	2.1E-04	9.4E-04	2.0E-03	8.6E-03	504
P01	0.37	6.8E-02	5.5E-02	1.0E-02	--	--	--	--	--	--	--	--	--	--	--
P02	0.37	6.8E-02	5.5E-02	1.0E-02	--	--	--	--	--	--	--	--	--	--	--
P03	0.19	6.8E-02	2.8E-02	5.0E-03	--	--	--	--	--	--	--	--	--	--	--
P04	0.37	6.8E-02	5.5E-02	1.0E-02	--	--	--	--	--	--	--	--	--	--	--
P11	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--
P12	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--
P13	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--
P14	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--
P15	0.75	0.14	0.11	2.0E-02	--	--	--	--	--	--	--	--	--	--	--
P21	1.4E-02	6.0E-02	9.4E-04	4.1E-03	7.7E-04	3.4E-03	0.18	0.79	0.15	0.66	1.1E-03	4.7E-03	9.9E-03	4.3E-02	952
P22	1.4E-02	6.0E-02	9.4E-04	4.1E-03	7.7E-04	3.4E-03	0.18	0.79	0.15	0.66	1.1E-03	4.7E-03	9.9E-03	4.3E-02	952
P24	1.4E-02	6.0E-02	9.4E-04	4.1E-03	7.7E-04	3.4E-03	0.18	0.79	0.15	0.66	1.1E-03	4.7E-03	9.9E-03	4.3E-02	952
P31	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428
P32	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428
P33	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428
P34	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428
P35	2.1E-02	9.0E-02	1.4E-03	6.1E-03	1.2E-03	5.1E-03	0.27	1.18	0.23	0.99	1.6E-03	7.1E-03	1.5E-02	6.5E-02	1,428
B40	3.0E-02	0.13	2.1E-03	9.1E-03	1.7E-03	7.5E-03	0.40	1.75	0.34	1.47	2.4E-03	1.1E-02	2.2E-02	9.6E-02	2,115
B41	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058
B42	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058
B43	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058
B44	1.5E-02	6.7E-02	1.0E-03	4.6E-03	8.6E-04	3.8E-03	0.20	0.88	0.17	0.74	1.2E-03	5.3E-03	1.1E-02	4.8E-02	1,058
P60	0.44	1.94	0.07	0.28	--	--	--	--	--	--	--	--	--	--	--
P61	1.76	7.74	0.26	1.14	--	--	--	--	--	--	--	--	--	--	--
P81	1.05	0.11	1.05	0.11	1.05	0.11	15.0	1.50	3.23	0.32	0.99	0.10	1.22	0.12	56
P82	1.05	0.11	1.05	0.11	1.05	0.11	15.0	1.50	3.23	0.32	0.99	0.10	1.22	0.12	56
P84	1.05	0.11	1.05	0.11	1.05	0.11	15.0	1.50	3.23	0.32	0.99	0.10	1.22	0.12	56
P89	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85
P91	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85
P92	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85
P93	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85
P94	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85
P95	1.61	0.16	1.61	0.16	1.61	0.16	22.9	2.29	4.94	0.49	1.51	0.15	1.87	0.19	85
<b>Total</b>	<b>31.6</b>	<b>62.6</b>	<b>17.2</b>	<b>17.5</b>	<b>13.1</b>	<b>2.60</b>	<b>186</b>	<b>32.2</b>	<b>42.0</b>	<b>15.7</b>	<b>12.0</b>	<b>1.28</b>	<b>24.8</b>	<b>45.0</b>	<b>18,145</b>

\*Note: For P61, the potential PM/PM<sub>10</sub> emission rate is based upon the emission rate used in the air quality modeling analysis which is higher than the calculated potential emission rate.

**B. Emissions From New Equipment or Modification - Hazardous Air Pollutants (HAPs):**

Pollutant	Type (F, S)*	Process Number	Potential to Emit (PTE)			Maximum Theoretical Emissions (MTE)		
			Lb/hr	Lb/yr	TPY	Lb/hr	Lb/yr	TPY
TCDD (2,3,7,8-Tetrachlorodibenzo-p-dioxin), as equivalents (17446-01-6)	FS	I02, I03	1.7E-10	1.5E-06	7.4E-10	1.7E-10	1.5E-06	7.4E-10
Hexane (110-54-0)	FS	P21-P24, P31-P35, B40-B44	5.7E-02	503	0.25	5.7E-02	503	0.25
Formaldehyde (50-00-0)	FS	P21-P35, B40-B44, P81-P95	5.2E-02	30.8	1.5E-02	5.2E-02	30.8	1.5E-02
Benzene (71-43-2)	FS	P21-P35, B40-B44, P81-P95, I02-I03	3.9E-02	10.2	5.2E-3	3.9E-02	10.2	5.2E-3
Total of all federal HAPs (individual / cumulative) =						<10 / <25		

\* F = Federal HAP; S = State HAP (NR 445)

**SOURCE CLASSIFICATION**

Existing Facility Status

The existing facility is not located in an area designated as nonattainment for any pollutant. The existing facility is not a major source under Part 70 because the potential emissions of each criteria pollutant are less than the major source threshold of 100 tons per year. The facility is an area (minor) source of hazardous air pollutants regulated by the Clean Air Act (federal HAPs) because the potential emissions of any single federal HAP is less than 10 tons per year and the potential emissions of all federal HAPs combined to less than 25 tons per year. The facility is a minor source for Prevention of Significant Deterioration (PSD) purposes because the source is not one of the stationary source types listed in s. NR 405.02(22)(a), Wis. Adm. Code and the potential emissions of each air contaminant subject to regulation under the Act are less than 250 tons per year.

Project Status

The proposed project is a minor modification to a PSD minor source. The proposed project is a minor source of federal HAPs.

Facility Status After Issuance of Permit(s)

The facility status will not change as a result of this permit.

Source Status Summary

Facility Classification <sup>a</sup>						
Program <sup>b</sup>	Existing Facility			After Permit Issuance		
	Major <sup>c</sup>	Synthetic Minor <sup>d</sup>	Minor	Major	Synthetic Minor	Minor
PSD			X			X
NAA NSR			NA			NA
Part 70 <sup>e</sup>			X			X
Federal HAPs			X			X
EPA Class Code <sup>f</sup>			B			B

<sup>a</sup> A facility can only have one overall classification for each program. If a facility has potential emissions of a single pollutant which exceed the major source thresholds for Part 70, the facility is a Part 70 source. The same applies for the EPA class code and the source status for PSD. The exception is for CAA HAPs. A facility can be a Part 70 source for criteria pollutants and an area (i.e. minor) source of HAPs. If a facility is a major source of HAPs, it is a Part 70 source.

<sup>b</sup> As required by 40 CFR s. 70.5(c)(3)i., emission estimates sufficient to verify which requirements are applicable to the source are included in this analysis. Based on the definitions in ss. NR 400.02(123m) and (124), Wis. Adm. Code, direct PM<sub>2.5</sub> emissions cannot exceed PM<sub>10</sub> emissions. Since PM<sub>10</sub> and PM<sub>2.5</sub> have the same major source thresholds, emission estimates of PM<sub>10</sub> are sufficient for determining Part 70 and PSD source status with respect to both PM<sub>2.5</sub> and PM<sub>10</sub>.

<sup>c</sup> For PSD, major stationary source has the meaning given in s. NR 405.02(22), Wis. Adm. Code. For nonattainment areas (NAA), major stationary source has the meaning given in s. NR 408.02(21), Wis. Adm. Code. For Part 70, major source has the meaning given in s. NR 407.02(4), Wis. Adm. Code.

<sup>d</sup> A source classified as synthetic minor is a stationary source that has maximum theoretical emissions greater than the major source threshold and has its potential to emit limited by practicably enforceable permit conditions so that it is not a major source. There are two categories of synthetic minor sources for EPA Class Code, SM80 and SM. f

<sup>e</sup> A stationary source that directly emits, or has the potential to emit, 100 tpy or more of any air contaminant subject to regulation under the Act other than particulate matter is defined as a major source for Part 70. For particulate matter, a stationary source is a Part 70 major source if it emits or has the potential to emit, 100 tpy or more of PM<sub>10</sub> per s. NR 407.01(4)(a), Wis. Adm. Code.

<sup>f</sup> EPA Class Codes: "A" means the source's maximum theoretical emissions and potential to emit for one or more pollutants are greater than Part 70 major source thresholds. "SM80" means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds and potential to emit is at least 80% but less than 100% of Part 70 major source thresholds. "SM" means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds but potential to emit for all pollutants is less than 80% of Part 70 major source thresholds. "B" means the source's maximum theoretical emissions and potential to emit for all pollutants are less than major source thresholds.

Pollutant Specific EPA Class Code

Pollutant specific classifications are used for compliance purposes. A facility can only have one overall EPA class code. The facility's EPA class code is shown in the previous section.

Pollutant	Pollutant Specific EPA Class Code After Permit Issuance			
	A	SM80	SM	B
PM				X
PM <sub>10</sub>				X
PM <sub>2.5</sub>				X
SO <sub>2</sub>				X
NO <sub>x</sub>				X
CO				X
VOC				X
Pb				X
Individual CAA HAPs				X
Total CAA HAPs				X

**EPA Class Codes:**

*A means the source's maximum theoretical emissions and potential to emit for one or more pollutants are greater than Part 70 major source thresholds.*

*SM80 means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds and potential to emit is at least 80% but less than 100% of Part 70 major source thresholds.*

*SM means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds but potential to emit for all pollutants is less than 80% of Part 70 major source thresholds.*

*B means the source's maximum theoretical emissions and potential to emit for all pollutants are less than major source thresholds.*

**STATUS UNDER WISCONSIN ENVIRONMENTAL POLICY ACT (WEPA)**

An air pollution control construction permit that does not require review under chs. NR 405 or 408, Wis. Adm. Code, is considered a minor action under s. NR 150.20(1m)(o), Wis. Adm. Code and as such, is compliant with WEPA and does not require a determination prior to permit issuance.

**NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) APPLICABILITY**

		Yes	No	NA	Explanation
<b>NSPS</b>	<b>For proposed construction of a source:</b>				
	1. Is the proposed source in a source category for which there is an existing or proposed NSPS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Processes P81, P82, P84, P89, P91-P95 are subject to 40 CFR 60 subpart IIII
	2. Is the proposed source an affected facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>For the proposed modification of an existing source:</b>				
	1. Is the existing source, which is being modified, in a source category for which there is an existing or proposed NSPS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2. Is the existing source, which is being modified, an affected facility (prior to modification)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3. Does the proposed modification constitute a modification <i>under NSPS</i> to the existing source?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	4. Will the existing source be an affected facility after modification?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> <b>Part 61 NESHAPS:</b>					

## NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) APPLICABILITY

1. Is the source subject to a Part 61 NESHAPS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Part 63 NESHAPS:</b>			
1. Is the source subject to an existing Part 63 NESHAPS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Processes P81, P82, P84, P89, P91-P95 are subject to 40 CFR 63 subpart ZZZZ
2. Is the proposed project subject to s. 112(g) of the Clean Air Act?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
The section 112(g) rules only apply to case-by-case MACT standards that are developed for new construction or reconstruction of sources that (by themselves) constitutes a new major source of federal hazardous air pollutants (for source categories not covered under an existing Part 63 MACT standard).			

### CRITERIA FOR CONSTRUCTION PERMIT APPROVAL

Section 285.63, Wis. Stats., sets forth the specific language for permit approval criteria. The Department finds that:

1. The source will meet emission limitations.
2. The source will not cause nor exacerbate a violation of an air quality standard or ambient air increment.
3. The source is operating or seeks to operate under an emission reduction option. Not Applicable.
4. The source will not preclude the construction or operation of another source for which an air pollution control permit application has been received.

### PRELIMINARY DETERMINATIONS FOR 18-JJW-054

The Wisconsin Department of Natural Resources has reviewed application and other materials submitted by Daybreak Foods, Inc., for 18-JJW-054 and hereby makes a preliminary determination that this project, when constructed and operated consistent with the application and subsequent information submitted, will be able to meet the emission limits and conditions included in the attached draft permit. Furthermore, the Department hereby makes a preliminary determination that an operation permit may be issued with the following draft applicable limits and draft permit conditions. A final decision regarding emission limits and conditions will be made after the Department has reviewed and evaluated all comments received during the public comment period. The proposed emission limits and other proposed conditions in the draft permit are written as they will appear in the final permit. These proposed conditions may be changed as a result of public comments or further evaluation by the Department.

**COMMONLY USED ACRONYMS AND ABBREVIATIONS:**

acfm	Actual cubic feet per minute	MTE	Maximum Theoretical Emissions
AP-42	Compilation of Air Pollutant Emission Factors	MW	Megawatts
BACT	Best Available Control Technology	n/a	Not Applicable
BTU or btu	British Thermal Unit	N <sub>2</sub> O	Nitrous Oxide
°C	Degrees Celsius	NAA	Non-Attainment Area
CAA	Federal Clean Air Act	NAAQS	National Ambient Air Quality Standards
CAMS	Compliance Assurance Monitoring System	NESHAP	National Emission Standard for Hazardous Air Pollutants
CEM	Continuous Emission Monitoring	NMOC	Non-methane Organic Compounds
CFR	Code of Federal Regulations	NO <sub>2</sub>	Nitrogen Dioxide
CH <sub>4</sub>	Methane	NO <sub>x</sub>	Oxides of Nitrogen
CI	Compression Ignition	NSCR	Non-Selective Catalytic Reduction
CO	Carbon Monoxide	NSPS	New Source Performance Standards
CO <sub>2</sub>	Carbon Dioxide	NSR	New Source Review
CO <sub>2</sub> e	Carbon Dioxide Equivalents	Pb	Lead
COMS	Continuous Opacity Monitoring System	PHAP	Hazardous Air Pollutant Emitted as a Particulate
Department	Wisconsin Department of Natural Resources	PM	Particulate Matter
dscf	Dry standard cubic foot	PM <sub>10</sub>	Particulate Matter less than 10 microns in diameter
dscm	Dry standard cubic meter	PM <sub>2.5</sub>	Particulate Matter less than 2.5 microns in diameter
EPA	United States Environmental Protection Agency	ppm	Parts per million
ESP	Electrostatic Precipitator	ppmdv	Parts per million dry volume
°F	Degrees Fahrenheit	ppmv	Parts per million by volume
FESOP	Federal Enforceable State Operating Permit	ppmw	Parts per million by weight
FID	Facility Identification Number	PSD	Prevention of Significant Deterioration
FOP	Federal Operating Permit	psia	Pounds per square inch absolute
ft	Feet	psig	Pounds per square inch gauge
g	Grams	PTE	Potential to Emit
GACT	Generally Available Control Technology	RACT	Reasonable Available Control Technology
GCP	General Construction Permit	RCP	Registration Construction Permit

**COMMONLY USED ACRONYMS AND ABBREVIATIONS:**

GHG	Greenhouse Gas	RICE	Reciprocating Internal Combustion Engine
GOP	General Operation Permit	ROG	Reactive Organic Gases
gr	Grains	ROP	Registration Operating Permit
GWP	Global Warming Potential	s.	Section
HAP	Hazardous Air Pollutant	scf	Standard cubic feet
Hg	Mercury	sec	Seconds
hr	Hour	SCR	Selective Catalytic Reduction
hp	Horsepower	SDS	Safety Data Sheet
H <sub>2</sub> S	Hydrogen Sulfide	SI	Spark Ignition
HVLP	High Volume Low Pressure	SNCR	Selective Non-Catalytic Reduction
Kg	Kilogram	SO <sub>2</sub>	Sulfur Dioxide
kW	Kilowatt	SOP	State Operating Permit
LACT	Latest Available Control Techniques	Temp	Temperature
LAER	Lowest Achievable Emission Rate	THC	Total Hydrocarbons
lb	Pound	TPY	Tons per year
m	Meter	µg	Microgram
MACT	Maximum Achievable Control Technology	VE	Visible Emissions
MPAP	Malfunction, Prevention, and Abatement Plan	VHAP	Hazardous Pollutant Emitted as a Vapor
mg	Milligram	VOC	Volatile Organic Compounds
mm	Millimeter	Wis. Adm. Code	Wisconsin Administrative Code
MM	Million	Wis. Stats.	Wisconsin Statutes
MMBtu/hr	Million British Thermal Units Per Hour	yr	Year

**From:** Amrhein, James F - DNR  
**To:** Nelson, Shelley D - DNR  
**Cc:** Cain, Mark R - DNR  
**Subject:** RE: Daybreak Creekwood, Water Resources review requested by 5/1  
**Date:** Monday, May 4, 2020 3:49:12 PM

Hi Shelley,

I have reviewed the plan for the facility as well as the maps for lands eligible for spreading of manure in conjunction with operation of the facility. As in most of my reviews, my comments will focus on the areas where manure application is proposed. The great majority of the spreading sites fall within the Crawfish River HUC12 (070900011005) while several fall within the Rock Creek HUC 12 (070900011003). Without knowing the current status of manure and other nutrient application, it is difficult to discern if operation of this facility will result in a net increase or decrease in application of manure on these fields. It is also unknown whether the current land spreading operations are conducted using good management practices. Therefore, I can only comment as to the current status of water resources that fall within the watersheds of the spreading plan and hypothesize what an increase in nutrient loading could mean to these resources.

As was already noted in the Conditional Approval of Daybreak Foods Inc. - Wisconsin Cage Free- Creekwood Nutrient Management Plan, WPDES Permit No. 0056308-06-0 dated October 16, 2019, "...some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to Crawfish River (listed 303(d) impaired water by "Total Phosphorus)". I would also note that the fields labelled as Wollin 1, 2, and parts of 3 and 4 drain to a wetland that goes to unnamed tributaries (5035383 and 5035411) that are part of the Rock Creek HUC 12. Rock Creek is also listed on the State's 303(d) list of impaired waters due to phosphorus.

The Crawfish River is a modeled to be a warm mainstem system. Fisheries surveys have shown this section to contain a diverse fishery with a variety of non-game species ranging from redhorse and buffalo to orange-spotted sunfish and various shiner species. This section of river also contains game species like walleye, sauger, northern pike, flathead and channel catfish. Likewise, the lower portions of Rock Creek contain a similar assemblage of species and this stretch likely serves as a spawning and nursery stream for species that inhabit the Crawfish River.

Both systems already suffer from excessive phosphorus concentrations, and higher nitrate levels have been noted during periods of frozen ground. As in most recommendations for watershed plans, they have a common theme: additional nutrient loading to any one of these systems could result in increased macrophyte and algal growth. This could lead to large swings in oxygen, which is not beneficial to aquatic life. Of probably greater issue, is that any runoff of manure of certain volume could have catastrophic effects on the fishery on any one of these systems.

Some of the fields are close or even directly adjacent to the Crawfish River, therefore it is imperative that the nutrient management plan must be strictly enforced. Good manure management practices must be employed, including: not spreading in unfavorable conditions (frozen, snow covered ground, prior to a thaw event or prior to a rain event); stay out of areas of concentrated flow (grassed waterways such as indicated on Stark 3) or other areas such as swales prone to consolidate water); incorporation of the manure after spreading.

Please let me know if you have any questions or comments.

JA

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Jim Amrhein  
Phone: 608-275-3280  
James.amrhein@wisconsin.gov

**From:** Warwick, Shelley D - DNR <Shelley.Warwick@wisconsin.gov>  
**Sent:** Wednesday, March 25, 2020 9:52 AM  
**To:** Amrhein, James F - DNR <james.amrhein@wisconsin.gov>  
**Subject:** RE: Daybreak Creekwood, Water Resources review requested by 5/1

Here's the SP link too if you like to see all the NMP application materials..

<https://permits.dnr.wi.gov/water/processing/Determined/Forms/CAFO%20Document%20Set/docsethomepage.aspx?ID=675797&FolderCTID=0x0120D520009C8CA1A3B5ECC4C86C31A7E7FBE2CB260700C42E922E38872C4FAEB4B9403D15144E&List=77d5859-b802-47b4-9ba2-908149168389&RootFolder=%2Fwater%2Fprocessing%2FDetermined%2FAG%2DNMP%2DSC%2D2017%2D28%2D06%2D3015%2D40%2D48&RecSrc=%2Fwater%2Fprocessing%2FDetermined%2FAG%2DNMP%2DSC%2D2017%2D28%2D06%2D3015%2D40%2D48>

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Shelley Nelson (formerly Warwick)  
Environmental Analysis Specialist  
Wisconsin Department of Natural Resources  
Office/Cell: 608-444-2835  
[shelley.warwick@wisconsin.gov](mailto:shelley.warwick@wisconsin.gov)

**From:** Warwick, Shelley D - DNR  
**Sent:** Wednesday, March 25, 2020 9:38 AM  
**To:** Amrhein, James F - DNR <james.amrhein@wisconsin.gov>  
**Cc:** Cain, Mark R - DNR <Mark.Cain@wisconsin.gov>  
**Subject:** RE: Daybreak Creekwood, Water Resources review requested by 5/1

Hi Jim,

Aaron sent me a link to the NMP application materials on SharePoint yesterday, so I grabbed maps, his approval and the NMP narrative for your use. They were big files, so I put them on the Fitchburg NT Common in a folder named "Daybreak NMP Files for JA"

If you need anything else, let me know. Hope you are doing well.. no field work is going to be a challenge this spring :-/

Shelley

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Shelley Nelson (formerly Warwick)  
Environmental Analysis Specialist  
Wisconsin Department of Natural Resources  
Office/Cell: 608-444-2835  
[shelley.warwick@wisconsin.gov](mailto:shelley.warwick@wisconsin.gov)

**From:** Amrhein, James F - DNR <james.amrhein@wisconsin.gov>  
**Sent:** Tuesday, March 24, 2020 12:45 PM  
**To:** Warwick, Shelley D - DNR <Shelley.Warwick@wisconsin.gov>  
**Subject:** RE: Daybreak Creekwood, Water Resources review requested by 5/1

Thank you.

JA

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Jim Amrhein  
Phone: 608-275-3280  
[james.amrhein@wisconsin.gov](mailto:james.amrhein@wisconsin.gov)

**From:** Warwick, Shelley D - DNR <Shelley.Warwick@wisconsin.gov>  
**Sent:** Tuesday, March 24, 2020 12:31 PM  
**To:** Amrhein, James F - DNR <james.amrhein@wisconsin.gov>  
**Subject:** RE: Daybreak Creekwood, Water Resources review requested by 5/1

yes, we don't have that info, but I am haing Aaron O Rourke send it to me and cc: you

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Shelley Nelson (formerly Warwick)  
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**From:** Amrhein, James F - DNR <james.amrhein@wisconsin.gov>  
**Sent:** Tuesday, March 24, 2020 12:30 PM  
**To:** Warwick, Shelley D - DNR <Shelley.Warwick@wisconsin.gov>  
**Subject:** RE: Daybreak Creekwood, Water Resources review requested by 5/1

Again, in addition to the plans for the facility, I need to see the maps of the lands where manure will be spread.

JA

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Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Jim Amrhein

Phone: 608-275-3280

[james.amrhein@wisconsin.gov](mailto:james.amrhein@wisconsin.gov)

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**From:** Warwick, Shelley D - DNR <[Shelley.Warwick@wisconsin.gov](mailto:Shelley.Warwick@wisconsin.gov)>  
**Sent:** Tuesday, March 24, 2020 10:22 AM  
**To:** Amrhein, James F - DNR <[James.Amrhein@wisconsin.gov](mailto:James.Amrhein@wisconsin.gov)>  
**Cc:** Warwick, Shelley D - DNR <[Shelley.Warwick@wisconsin.gov](mailto:Shelley.Warwick@wisconsin.gov)>  
**Subject:** Daybreak Creekwood, Water Resources review requested by 5/1

Hi Jim,

I am working with Mark Cain and Michael Webber on the WEPA review for Creekwood/Daybreak in Jefferson Co. Talking with Mark, it sounds like you are familiar with this kind of request and have typically done a memo with a couple of paragraphs talking about potential water resources impacts. The env questionnaire is attached above. Much of the manure produced will be dried onsite and sold (leaving the property), some will be land applied on lands that have an NMP. These new structures across the road from the old structures have been built already (last summer). I will have Aaron O'Rourke send you the NMP info. Several wetland and topo maps are attached at the end of the EAQ.

Would a review back to us by May 1<sup>st</sup> be workable? Please confirm.

Best,

Shelley