

HEARING OFFICER'S REPORT

TO: The Honorable Shawn M. Garvin
Cabinet Secretary, Department of Natural Resources and Environmental Control

FROM: Theresa L. Newman
Regulatory Specialist, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Renewal of existing Agricultural Utilization of Waste Permit of Denali Water Solutions, LLC

DATE: July 26, 2023

I. BACKGROUND AND PROCEDURAL HISTORY:

A virtual public hearing was held on Wednesday, May 18, 2022, at 6:00 p.m. via the State of Delaware Cisco WebEx Meeting Platform by the Department of Natural Resources and Environmental Control (“DNREC,” “Department”) to receive comments on the application submitted by Denali Water Solutions, LLC (“Applicant,” “Denali”) to renew their existing Agricultural Utilization of Waste Permit (“AGU permit”), State Permit Number AGU 1703-K-05, and to request an additional application site to the renewed permit, under the Department’s *Guidance and Regulations Governing the Land Treatment of Wastes, Part V, Land Treatment of Waste Products* (7 DE Admin. Code 7103) (“Application”).

In 2017, Enviro Organic Technologies, Inc. transferred their AGU State Permit to Denali, and the Department issued AGU Permit #1703-K-05 for a 5-year period. The existing AGU permit authorizes the land application of Dissolved Air Flotation (“DAF”) solids to nine locations owned and operated by Schiff Farms: Schreiber Farm (located approximately 8 miles west of Harrington, Delaware), Seeney Farm (located approximately 8 miles west of Harrington, Delaware), Cain Farm (located approximately 3 miles west of Frederica, Delaware), Masten Farm (approximately 4 miles north of Harrington, Delaware), Bergold Farm (approximately 5 miles north of Harrington, Delaware), Winkler Farm (located approximately 4 miles north of Harrington, Delaware), Harrison Farm (located approximately 7 miles northwest of Harrington, Delaware), Home Farm (located approximately 7 miles northwest of Harrington, Delaware), and Collision Farm (located approximately 4 miles north of Harrington, Delaware). All

locations are within an 8-mile radius of Harrington, Delaware, and are comprised of a total of approximately 1,500 acres of land that is suitable for land application of DAF solids. The existing AGU permit authorizes the application of DAF solids under the management of Denali by the employees of Schiff Farms. Denali and Schiff Farms have a written agreement to store the DAF solids in above-ground storage tanks and to facilitate the land application of DAF solids onto the authorized sites.

The Applicant is currently authorized to use DAF solids that are generated by the following sources: Pet Poultry Products LLC in Bridgeville DE; Allen Harim Foods in Harbeson and Millsboro, DE; Amick Farms in Hurlock, MD; Tyson Foods Inc. in Temperanceville, VA; Valley Proteins, Inc. in Linkwood, MD; Mountaire Farms in Selbyville DE; Perdue Farms Inc. in Georgetown and Milford DE, and Salisbury, MD facilities. It is important to note that the wastewater from the aforementioned sources does not contain human waste components, thus the DAF solid is not classified as a sewage sludge or biosolids.

The sources mentioned above generate DAF solids from the wastewater of processing poultry and pet food, which contain very small bits of meat, fat, and other particles that are mixed into the process water. Early in the treatment process, the wastewater goes through a DAF unit to remove the tiny particles from the wastewater stream. The DAF unit generates air bubbles that attach to the tiny particles, causing the particles to float to the surface of the wastewater. The particles are then skimmed off the top of the wastewater surface, forming a semi-solid material, and then scraped into a hopper tank where they are temporarily stored. The DAF solids are ultimately placed into tanker trucks, transported to the above-ground storage tanks, and applied to land as a fertilizer for crops. Denali has a written agreement with Schiff Farms to store the DAF solids in above-ground storage tanks and to facilitate the land application of DAF solids onto the authorized sites. The existing AGU permit authorizes the application of DAF solids under the management of Denali by the employees of Schiff Farms.

Prior to land application and as a part of the AGU permit, a soil report is required to determine areas suitable for land application and to delineate areas not suitable for land application. The Applicant is responsible for monitoring and testing the stored DAF solids and the soil of the authorized sites for

nutrients, metals, percent of solids, pH, and other parameters. Samples of the mixed DAF solids are collected from each storage tank and analyzed.

The employees of Schiff Farms apply nutrients at an agronomical rate, consistent with the rates of the annual Nutrient Management Plan (“NMP”) that is developed by a Delaware Certified Nutrient Consultant. The NMP is developed in accordance with the Delaware Department of Agriculture (“DDA”) and establishes the amount, placement, timing, and application of nutrient loading rates, for the crops at each location. The NMP provides an overview of the amount of nutrients needed for the different types of crops based on historical crop yields. Sources of nutrients may include commercial fertilizer, manure, DAF, or various combinations of these materials. The purpose of the NMP is to provide nutrient loading rates for the anticipated crop yield, however, it does not specifically provide details for the application of DAF solids.

The Department utilizes the NMP as a supporting document to the AGU permit. The purpose of the AGU permit is to regulate the cumulative nutrients of DAF solids, in combination with fertilizers utilized from traditional agriculture (such as commercial fertilizer and manure) are applied to each farm field at agronomical rates. As the Department regulates the application of DAF solids, the AGU permit enforces the loading rates of nitrogen with consideration of DAF solids’ components. The Department’s AGU permit ensures the regulatory requirements for the land application of DAF solids do not exceed the requirements for the anticipated crop yield, and are applied at agronomical rates, thus reducing the potential for the transport of nutrients to groundwater and surface water. When DAF solids are applied to land at an agronomical rate, it can increase the organic content of the soil over time, resulting in improved water-holding capacity and soil quality. For the purposes of the Department enforcing its regulatory requirements, the AGU permit takes precedence over requirements in the NMP.

In addition, the Department enforces specific application measures for DAF solids including buffer zones. The Applicant must maintain buffers from sensitive areas such as dwellings, wells, roads, streams, ponds, etc. as follows:

	Surface Application	Surface Injection
Occupied off-site dwelling	200 ft.	100 ft.
Occupied on-site dwelling	100 ft.	50 ft.
Potable wells	100 ft.	100 ft.
Non-potable wells	25 ft.	25 ft.
Public roads	25 ft.	15 ft.
Property lines	50 ft.	25 ft.
Streams, tidal waters, or other water bodies	50 ft.	33 ft.
Drainage ditches	25 ft.	25 ft.

The Department’s AGU permit establishes DAF solids application limits for each authorized site, limiting the application to once within a 3-year period. It also establishes application restrictions, testing requirements, and monitoring requirements. The Department enforces compliance with the AGU permit conditions by conducting a routine inspection of the approved application sites during application activities and after the application of DAF solids is completed.

On August 27, 2021, the Department’s Division of Water, Surface Water Discharges Section (“SWDS”) received a request from the Applicant to renew their existing AGU permit for the agricultural utilization of DAF solids at nine locations and requested to add a tenth location, Luff Farm. The new proposed site is approximately 6 miles southwest of Harrington, Delaware, and is comprised of 91 acres of land suitable for the DAF application.

The Department placed the initial application on public notice in the Delaware State News, the News Journal, and the Department’s website on January 30, 2022. To that, the Department received a letter from a member of the public addressing concerns, questions, and a request for the Department to hold a hearing in regard to the Application.

For the protection of human health and the environment, the Department considered public concern regarding the above-ground storage tank and determined it was appropriate to include on the draft renewal of the AGU permit to require the Applicant to conduct visual inspections of the above-ground storage tanks annually for structural integrity and report any concerns identified, to the Department. Additionally, the draft permit required the applicant to have an inspection of the above-ground storage tanks conducted once every permit cycle, by a Professional Engineer. It should be noted that the AGU permit does not regulate the storage of DAF solids.

On May 18, 2022, the virtual public hearing was held by the Department. There were five (5) members of the public in attendance at the virtual hearing, along with a representative of the Applicant and Division of Water's staff. The record remained open through June 2, 2022, and comment was received from the public. Subsequent to the record closing, this Hearing Officer requested a Technical Response Memorandum ("TRM") from the expert staff of WSLs that will be discussed in further detail below. Proper notice of the hearing was provided as required by law.

II. SUMMARY OF THE PUBLIC HEARING RECORD:

The public hearing record ("Record") consists of the following documents: (1) a verbatim transcript; (2) eight documents introduced by responsible Department staff at the public hearing held on May 18, 2022, and marked by this Hearing Officer accordingly as "Department Exhibits 1-8"; (3) the TRM from Brian Churchill, Environmental Scientist, Division of Water; and (4) the draft Permit prepared by the Department's SWDS regarding Denali's Water Solutions, LLC's AGU Renewal Permit Application, as identified at the time of the public hearing as "Department's Exhibit 7" and posted as such on the hearing web page dedicated to this matter. The Draft Permit is expressly incorporated into this Report and attached hereto as Appendix "A". The Department's person primarily responsible for reviewing the Application, Mr. Churchill, developed the Record with the relevant documents in the Department's files.

Representing the Applicant at the hearing was Lauren Miller with Denali Water Solutions, LLC. Following the presentation from Mr. Churchill, on behalf of the Department (and the introduction of the Department's exhibits to be entered into the Record), Mrs. Miller, proceeded with a presentation on behalf of Applicant.

Subsequent to the public hearing, the Department received 4 comments regarding the matter. The Record closed with regard to public comment 15 days following the public hearing, on June 2, 2022.

Subsequent to the close of the Record as noted above, this Hearing Officer requested a Technical Response Memorandum ("TRM") from the technical experts in the Department's Division of Water to: (1) address the concerns associated with this pending Application, as set forth in the public comment received by the Department; (2) provide a formal regulatory review of the Application; and (3) offer the Division of Water's conclusions and recommendations with regard the pending Application for the benefit of the Record generated in this matter.

I find that the aforementioned TRM offers a detailed regulatory review of all aspects of the Applicant's proposed Application, identifies all of the concerns raised by the public, and responds to them in a balanced manner, with accurately reflecting the information contained in the Record. The aforementioned TRM is attached hereto as Appendix "B" and expressly incorporated herein.

III. RECOMMENDED FINDINGS AND CONCLUSIONS:

The Applicant has applied to renew their existing Agricultural Utilization of Waste Permit (State Permit Number AGU 1703-K-05), and to add Luff Farm, located in Harrington, Delaware, to the renewed permit. I find that the Applicant's proposed Application meets the requirements established in *Part V* of 7 DE Admin. Code 7103, *Guidance and Regulations Governing the Land Treatment of Wastes*.

The Department's TRM acknowledges the comments received from the public and thoroughly responds to them. The concerns addressed concerns pertaining to the requirements of the Application, the correlation of an NMP and an AGU permit, and the storage of DAF solids. For the purposes of brevity, this Report defers to the attached TRM in its entirety for a comprehensive understanding of the concerns raised in the public comments received by the Department in this matter, as well as the Department's formal responses to the same, as provided by the technical experts in the Department's Division of Water.

The Department considered the comments received and revised the initial draft permit (noticed on January 20, 2022) to include typographical corrections and additional measures to protect human health and the environment. The Department revised the initial draft permit to include 1) a requirement for the Applicant to conduct visual inspections of the above-ground storage tanks annually for structural integrity and report any concerns identified, 2) to have an inspection of the above-ground storage tanks conducted once every permit cycle by a Professional Engineer, 3) removal of an extra "Authorization to Land Apply Residuals" for parcels of land inadvertently added to the permit application, and 4) corrections to the tax parcel number for Harrison Farm. It should be noted that the Department's *Guidance and Regulations Governing the Land Treatment of Wastes, Part V, Regulations Governing the Land Treatment of Waste Products* does not regulate these above-ground storage tanks as the regulations apply to the contents of the tanks. The draft AGU permit, however, enforces the additional inspection requirements to reduce potential structural integrity issues of the tanks, such as cracks that could cause leakage of DAF solids, due to the age of the tanks.

In conclusion, I recommend the renewal issuance of the Agricultural Utilization Permit and adding an a tenth site, to authorize the land application of DAF to Schreiber Farm, Seeney Farm, Cain Farm, Masten Farm, Bergold Farm, Winkler Farm, Harrison Farm, Home Farm, Collison Farm, and Luff Farm, consistent with the finalized Draft Permit prepared by the technical experts in the Department's Division of Water, and consistent with the Record developed in this matter.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction under 7 *Del.C.* Ch.60, 7 DE Admin. Code 7103, *Guidance and Regulations Governing the Land Treatment of Wastes, Part V, Land Treatment of Waste Products* and all other relevant statutory authority, to make a final determination of the Application after holding a public hearing, considering the public comments, and reviewing all information contained in the Record generated in this matter;
2. The Department provided proper public notice of the Application submitted by Denali Water Solutions, LLC and of the public hearing held on May 18, 2022 and held said hearing to consider all public comments that may be offered on the Application, in a manner required by the law and regulations;
3. The Department has carefully considered the factors required to be weighed in issuing the lease required by this Application, and finds that the Record supports approval of the Application and the issuance of the Agricultural Utilization Permit renewal and finds the Record supports approval of the same;
4. The Department shall issue the renewal of the Agricultural Utilization Permit to the Applicant, Denali Water Solutions, LLC, to authorize the land application of DAF to Schreiber Farm, Seeney Farm, Cain Farm, Masten Farm, Bergold Farm, Winkler Farm, Harrison Farm, Home Farm, Collison Farm, and Luff Farm, consistent with the Record developed in this matter. Furthermore, said permit shall include all conditions as set forth in the Department's Draft Permit, to ensure that Delaware's environment and public health will be protected from harm;
5. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and

6. The Department shall serve and publish its Order on its internet site and shall provide legal notice of the Order in the same manner that the Department provided legal notice of the Application.



Theresa L. Newman
Public Hearing Officer

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Attachments/Appendices:

Appendix A: SWDS Draft Permit

Appendix B: Technical Response Memorandum (06/08/2023)