



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**

RICHARDSON & ROBBINS BUILDING
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

PHONE
(302) 739-9000

OFFICE OF THE
SECRETARY

Secretary's Order No.: 2023-W-0024

**RE: Permit Application of the Renewal of Existing Agricultural Utilization of Waste Permit
of Denali Water Solutions, LLC**

Date of Issuance: September 28, 2023

Effective Date: September 28, 2023

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC"), pursuant to 7 Del.C. §§6003, 6004, 6006, Delaware's *Guidance and Regulations Governing the Land Treatment of Wastes, Part V, Land Treatment of Waste Products* (7 DE Admin. Code 7103) and all other relevant statutory authority, the Department of Natural Resources and Environmental Control ("Department" or "DNREC") issues this Order, approving the renewal permit application of Denali Water Solutions, LLC ("Applicant" or "Denali"), to renew their existing Agricultural Utilization of Waste Permit ("AGU permit") State Permit Number AGU 1703-K-05, authorizing the land application of Dissolved Air Flootation ("DAF") solids to nine locations, and authorizing a new location to the existing permit ("Application"). More specifically, the renewed permit authorizes the application of DAF solids to the following agricultural sites: Schreiber Farm, Seeney Farm, Cain Farm, Masten Farm, Bergold Farm, Winkler Farm, Harrison Farm, Home Farm, Collision Farm, and the new location, Luff Farm, that will be discussed in detail below.

Background, Procedural History and Findings of Fact

The Department issues an AGU permit to regulate the utilization of waste products used as soil conditioners and fertilizers, such as DAF solids. DAF solids are generated from waste products of poultry and pet food that contain nitrogen and phosphorus nutrients which are essential for plant growth and optimum yield of crops. 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. To ensure DAF solids are applied at an agronomical rate to the appropriate crops, the Department implements measures and conditions through an AGU permit.

In 2017, the Department issued an AGU permit to Denali, State Permit Number AGU 1703-K-05, authorizing the land application of DAF solids onto the following sites that are comprised of approximately 1,500 acres of land suitable for crop production: 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). The DAF solids applied to the sites are generated by the following approved facilities: 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 should be noted the initial AGU permit was issued to Enviro Organic Technologies, Inc. and then transferred to Denali in 2017.

The facilities noted above generate the DAF solids from processing poultry and pet food that produce wastewater containing particles of meat, fat, and other elements. Early in the treatment process, the wastewater is screened to remove larger particles; however, tiny particles still pass through the screens. The wastewater then goes through a DAF unit to remove the tiny particles in the wastewater. In so doing, the DAF unit generates air bubbles that attach to the tiny particles and float to the surface of the wastewater. It forms a semi-solid material that is skimmed off the top of the water surface and scraped into a hopper tank for temporary storage. This process creates a dewatered and concentrated material, known as DAF solids. The DAF solids are ultimately placed into tanker trucks and transported to above-ground storage tanks where the DAF solids from the various approved facilities are mixed in the tanks. It is important to note that the wastewater from the aforementioned sources does not contain human components, therefore DAF solids generated from these facilities are not classified as sewage sludge or biosolids.

The Applicant is responsible for monitoring and testing the stored DAF solids for nutrients, metals, percent of solids, pH, and other parameters, prior to land application. Samples of the mixed DAF solids are collected from each storage tank and analyzed. Additionally, the soil to which the DAF solids will be applied is tested for the same, and a soil report is required to determine areas suitable for land application and to delineate areas not suitable for land application.

As previously mentioned, the authorized farms approved for DAF solid application are owned and operated by Schiff Farms. 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 sites, owned by Schiff Farms. 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 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. 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. For the purposes of the Department enforcing its regulatory requirements, the AGU permit takes precedence over requirements in the NMP.

In addition to the nitrogen loading established in the existing AGU permit, 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 are completed.

On August 27, 2021, the Department's Division of Water, Surface Water Discharges Section ("SWDS") received a request from the Applicant to renew the existing AGU Permit, State Permit Number AGU 1703-K-05, and to add Luff Farms to the renewed permit. The new location, Luff Farm, consists of approximately 91 acres of land suitable for land application and is located southwest of the intersection of High Stump Road and Greenville Road, approximately 6 miles southwest of Harrington, Delaware.

After determining the Application to be administratively complete, the Department's SWDS advertised receipt of the Application in both the *News Journal* and the *Delaware State News* on January 30, 2022.

Following the issuance of the notice, the Department's SWDS received a request for a public hearing on April 17, 2022, regarding this matter. In the request for a hearing, the Department was made aware that the Applicant submitted a required document which included a header implying that the document was for another State. For consistency purposes, the Applicant resubmitted the document, correcting the header to associate the document with a Delaware application. As mentioned above, the Application was deemed administratively complete, and the header of the document did not change the meaning or intent of the application.

On April 17, 2022, the Department's SWDS placed a legal notice in the *News Journal*, the *Delaware State News*, and on the Department's website, to advertise the public hearing to be held regarding this Application on May 18, 2022.

The Department's SWDS, representatives of the Applicant, and members of the public attended the virtual public hearing held on Denali Water Solutions, LLC Application, and on the proposed draft permit prepared by the Department regarding this matter, using the virtual WebEx platform, on May 18, 2022. It should be noted that comments were received from the public at the time of the public hearing, and the same was posted on the DNREC hearing web page dedicated to this matter. The hearing record remained open for receipt of comment through June 2, 2022, and comment was received by the Department. Proper notice of the hearing was provided as required by law.

Following the close of the public comment period, and at the request of Hearing Officer Theresa Newman, the Department's technical experts in the SWDS of Water provided a Technical Response Memorandum ("TRM") in response to the public comments received by the Department about Denali's pending Application. The TRM provides a summary of the public comments received by the Department in this permitting matter and offers detailed responses to the same.

Subsequent to the receipt of the Department's TRM referenced above, Hearing Officer Newman prepared her Hearing Officer's Report ("Report"), dated July 26, 2023. The Report expressly incorporated therein the aforementioned TRM, along with all of its Appendices, including the Department's finalized Draft Permit, as Appendix "A." Ms. Newman's Report set forth the procedural history, summarized and established the record of information ("Record") relied on in the Report and provided findings of fact, reasons, and conclusions that recommend the approval of Denali's Application currently pending before the Department, subject to the conditions set forth in the finalized Draft Permit.

The Report, along with its Appendix, is incorporated herein by reference. The Report also addressed the public comments received in this matter and concluded that the same did not warrant the Department's denial of Denali's pending Application.

Reasons and Conclusions

Currently pending before the Department is the Application submitted by Denali Water Solutions, LCC, requesting the renewal of their existing AGU permit (State Permit Number AGU 1703-K-05), authorizing the land treatment of DAF solids generated by approved poultry and pet food processing facilities and other land-treatable residuals (as approved by DNREC), under the Department's *Guidance and Regulations Governing the Land Treatment of Wastes, Part V, Regulations Governing the Land Treatment of Waste Products* (7 DE Admin. Code 7103), to the following agricultural sites: Schreiber Farm, Seeney Farm, Cain Farm, Masten Farm, Bergold Farm, Winkler Farm, Harrison Farm, Home Farm, Collision Farm, and adding Luff Farm as an application site. I find that the Applicant is required to obtain this renewal of their existing AGU permit, and to add Luff Farm for the reasons noted above. I further find that the above-described Application is subject to state regulatory requirements as noted above, and as provided for under 7 *Del.C. Ch. 60*.

In reviewing the applicable statutes and regulations, as well as weighing the public benefits of this Application against potential detriments, the Department's technical experts in the SWDS have concluded that the pending Application is protective of human health and the environment while being consistent with applicable State and Federal regulations.

The Department's TRM, attached and incorporated into Ms. Newman's Report as Appendix B, acknowledges the comments received from the public concerning the Application and provides a thorough and balanced response to the same, accurately reflecting the Record generated in this matter. Rather than attempting to relay each concern voiced by the public in the comments received in this matter, this Order will highlight an overview of the concerns. The Department received concerns pertaining to the requirements of the Application, the correlation of an NMP and an AGU permit, and concerns about the storage of DAF solids.

The Department reviewed the public's concerns and upon review of the draft AGU permit, the Department implemented additional measures to protect human health and the environment and corrected typographical errors. 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.

I find that the Division of Water's TRM offers a thorough review of all aspects of Denali's pending Application, addresses those concerns germane to the subject matter of the aforementioned public hearing held by the Department in this matter, and responds to them in a balanced manner, accurately reflecting the information contained in the Record. The Record developed in this matter indicates that the Department's experts in the Division of Water have concluded that Denali's Application complies with all statutes and regulations that govern such permitting actions, have weighed the public benefits of the issuance of an AGU permit to the Applicant against potential detriments, and have recommended approval of the same.


I find and conclude that the Record supports the approval of the Application submitted to the Department by Denali Water Solutions, LLC, as set forth above. The AGU Permit to be issued by the Department will be reflective of the Application submitted by Denali Solutions LLC, and consistent with the finalized Draft Permit prepared by the Department's experts in the Division of Water, to ensure continued protection of public health and the environment, and consistent with the Record developed in this matter.

Accordingly, this Order approves the renewal of a State of Delaware AGU permit to Denali Solutions LLC, authorizing the land treatment of DAF solids and other land-treatable residuals, as approved by DNREC, to the agricultural sites: Schreiber Farm, Seeney Farm, Cain Farm, Masten Farm, Bergold Farm, Winkler Farm, Harrison Farm, Home Farm, Collision Farm, and adding Luff Farm as an application site, 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, the Department concludes and specifically directs the following:

1. The Department has jurisdiction, as provided for under 7 *Del.C.* Ch. 60, 7 DE Admin. Code 7103, the Department's *Guidance and Regulations Governing the Land Treatment of Wastes*, Part V, *Regulations Governing the Land Treatment of Waste Products*, and all other relevant statutory authorities, to make a final determination on the aforementioned pending permit applications submitted by Denali Water Solutions, LLC after holding a public hearing, considering the public comments, and all information contained in the Record generated in this matter;
2. The Department provided proper public notice of the aforementioned Application submitted by Denali Water Solutions, LLC, and of the public hearing held on May 18, 2022, and held the hearing to consider any public comments that may be offered on the Application, in a manner required by the law and regulations;
3. The Department considered all timely and relevant public comments in the Record, as established in the Department's TRM, and the aforementioned finalized Draft Permit, both of which have now been expressly incorporated into the Record generated in this matter;
4. The Department has carefully considered the factors required to be weighed in issuing the permit renewal required by the aforementioned Application submitted by Denali Water Solutions, LLC, and finds that the Record supports approval of the same;
5. The Department shall issue to the Applicant a renewal of the State of Delaware Agricultural Utilization Permit, authorizing the land treatment of DAF solids and other land-treatable residuals, as approved by DNREC, to the agricultural sites: Schreiber Farm, Seeney Farm, Cain Farm, Masten Farm, Bergold Farm, Winkler Farm, Harrison Farm, Home Farm, Collision Farm, and adding Luff Farm, consistent with the finalized Draft Permit prepared by the Department's Division of Water, and consistent with the Record developed in this matter;

6. Furthermore, said AGU Permit shall include all conditions as set forth in the Department's TRM, along with the aforementioned finalized Draft Permit, to ensure that Delaware's environment and public health will be protected from harm;
7. The Department adopts the Report and its attachments as further support for this decision;
8. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and
9. The Department shall serve and publish its Order on its Internet site.



For Shawn M. Garvin
Secretary