Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

July 19, 2019

Dovetail Energy, LLC
Attn: W. Michael Oberfield

1156 Herr Rd
Fairborn, OH 45324

RE: Dovetail Energy, LLC
Permit-Long Term
Approval
Surface Water Permit to Install
Greene
DSWPTI1289642

Subject: Dovetail Energy - Storage Ponds - Two synthetic lined storage ponds for storage of approx. 32 million gallons of anaerobically digested biosolids. Bath Twp.
Plans Received on May 06, 2019
Plans Revised on July 11, 2019
From: North Point Engineering Corporation

Ladies and Gentlemen:

Enclosed is an approved Ohio EPA Permit to Install. This permit contains several conditions and restrictions; I urge you to read it carefully. A general condition of your permit states that issuance of the permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations. You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00, made payable to "Treasurer State of Ohio", which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address: Environmental Review Appeals Commission, 30 East Broad Street, 4th Floor, Columbus, OH 43215. If you have any questions, please contact the Ohio EPA District Office.

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at http://www.surveymonkey.com/s/ohioepacustomersurvey. If you have any questions, please contact the Ohio EPA district office to which you submitted your application.

Sincerely,

Kevin J. Fowler, Supervisor
Permit Processing Unit, Division of Surface Water

KJF/bd

CERTIFIED MAIL
cc: Southwest District Office North Point Engineering Corporation Greene County Combined Health

Ohio Environmental Protection Agency

Permit to Install

Application No: 1289642

Applicant Name:	Dovetail Energy, LLC
Address:	1156 Herr Rd
City:	Fairborn
State Zip:	OH 45324
Person to Contact:	W. Michael Oberfield
Telephone:	602-321-0750

Description of Proposed Source: Dovetail Energy - Storage Ponds - Two synthetic lined storage ponds for storage of approx. 32 million gallons of anaerobically digested biosolids., Bath Twp., Greene

Issuance Date: July 19, 2019
Effective Date: July 19, 2019

The above named entity is hereby granted a permit to install for the above described source pursuant to Chapter 3745-42 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source of environmental pollutants will operate in compliance with applicable state and federal laws and regulations. Issuance of this permit does not constitute expressed or implied assurance that, if constructed or modified in accordance with those plans and specifications, the above described source of pollutants will be granted the necessary operating permits. This permit is granted subject to the following conditions attached hereto.

Ohio Environmental Protection Agency

Laurie A. Stevenson

Laurie A. Stevenson
Director
P.O. Box 1049
50 West Town Street, Suite 700
Columbus, OH 43216-1049

This permit shall expire if construction has not been initiated by the applicant within eighteen months of the effective date of this permit. By accepting this permit, the applicant acknowledges that this eighteen month period shall not be considered or construed as extending or having any effect whatsoever on any compliance schedule or deadline set forth in any administrative or court order issued to or binding upon the permit applicant, and the applicant shall abide by such compliance schedules or deadlines to avoid the initiation of additional legal action by the Ohio EPA.

The director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, examining records, or reports pertaining to the construction, modification, or installation of the above described source of environmental pollutants.

Issuance of this permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations.

Any well, well point, pit or other device installed for the purpose of lowering the ground water level to facilitate construction of this project shall be properly abandoned in accordance with the provisions of Section 3745-9-10 of the Ohio Administrative Code or in accordance with the provisions of this plan or as directed by the Director or his representative. For more information please contact: Division of Drinking and Ground Water - Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, Ohio 43215 (614) 644-2752.

Any person installing any well, well point, pit or other device used for the purpose of removing ground water from an aquifer shall complete and file a Well Log and Drilling Report form with the Ohio Department of Natural Resources, Division of Water, within 30 days of the well completion in accordance with the Ohio Revised code Section 1521.01 and 1521.05. In addition, any such facility that has a capacity to withdraw waters of the state in an amount greater than 100,000 gallons per day from all sources shall be registered by the owner with the chief of the Division of Water, Ohio Department of Natural Resources, within three months after the facility is completed in accordance with Section 1521.16 of the Ohio Revised Code. For copies of the necessary well log, drilling report, or registration forms, please contact:

Ohio Department of Natural Resources
2045 Morse Road Bldg. E
Columbus, OH 43229-6693
(614) 265-6717

1. The Dovetail Energy Storage Ponds shall be constructed in strict accordance with the plans and application approved by the director of the Ohio Environmental Protection Agency. There shall be no deviation from these plans without the prior express, written approval of the agency. Any deviations from these plans or the above conditions may lead to such sanctions and penalties as provided for under Ohio law. Approval of these plans and issuance of this permit does not constitute an assurance by the Ohio Environmental Protection Agency that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

2. The Dovetail Storage Ponds are not approved for disposal of material. In the event the Dovetail Storage Ponds are no longer actively operated, the applicant must close the ponds in accordance with an approved PTI.

3. The permit to install is not an authorization to discharge pollutants to waters of the state. Pursuant to Chapter 6111 of the Ohio Revised Code, the applicant shall apply for a permit to discharge (NPDES) 180 days prior to any discharge of pollutants to waters of the state.

4. The conditions in this permit shall remain valid unless superseded by another applicable Director's Action.

5. If the construction area for this project is one acre or more, or is part of a larger development that is one acre or more, the applicant must submit a Notice of Intent (NOI) for coverage under the general construction stormwater permit to Ohio EPA at least 21 days prior to the start of construction of this project.

6. The applicant shall be responsible for proper operation and maintenance of the Dovetail Energy Storage Ponds Class B biosolids storage facility.

7. This permit to install applies only to the storage system listed above. The installation of drinking water supplies, air contaminant sources, or solid waste disposal facilities or any alteration of design or operations of the storage ponds will require the submittal of a separate application to the director.

8. No liquids, sludges, or toxic or hazardous substances other than those set forth in the approved permit shall be accepted for disposal without the prior written approval of the Ohio Environmental Protection Agency.

9. The applicant shall notify the Ohio EPA if the applicant does not continue as the operator of the Dovetail Energy Storage Ponds.

10. The storage ponds shall be inspected for structural integrity (including evidence of erosion, leakage, animal damage, problems of emerging vegetation) on a monthly basis for the months of December through February and weekly for all other months. Inspection and repair records shall be maintained and made available to Ohio EPA for review upon request. If issues are observed during these inspections, corrective actions shall be immediately initiated to resolve the issue.

11. Ponds must be maintained to discourage vectors. Control and removal of vegetation around the perimeter and within the pond must be performed at a minimum of a bi-weekly basis during the growing season. Should nuisance vectors associated with this facility occur as determined by the Ohio EPA or the health department, the owner and operator shall immediately implement all approved corrective actions to address the situation.

12. The following records shall be maintained and made available to Ohio EPA for review upon request:

i. Documentation of the daily volume, in gallons, of biosolids that were transferred from Dovetail Energy, LLC to the Dovetail Energy Storage Ponds;
ii. Weekly records of the operating levels of each pond;
iii. Hauling manifests that document the date, and volume in gallons of biosolids that were transported from the Dovetail Storage Ponds for beneficial use, transfer to another NPDES permitted facility, or disposal within a landfill;
iv. The completed Monthly Dovetail Energy Storage Ponds Inspection Forms and the actions taken to address observed issues;
v. Any complaints related to the Dovetail Energy Storage Ponds;
vi. The analytical results, as required by the NPDES permit, used to demonstrate the stability of class B biosolids generated from the Dovetail Energy, LLC anaerobic digester facility; and
vii. The results and any evaluation of sampling and analysis of water samples collected from the witness zone and perimeter drains.

13. The following plans included as part of the approved PTI will be considered permit conditions of this PTI: The Operation and Maintenance Plan, the Site Monitoring Plan, Detection Monitoring Program, Contingency Program, Odor Management/Mitigation Plan, and Communication with Residents Program. These plans shall be implemented at the Dovetail Energy Storage Ponds.

14. Only Class B biosolids that meet the stability conditions contained in the Dovetail Energy, LLC NPDES permit from the Dovetail Energy, LLC anaerobic digester shall be stored in the Dovetail Energy Storage Ponds.

15. The Dovetail Energy Pond 1 and Pond 2 recompacted soil barrier shall be constructed in accordance with the following:

i. No soil material used in the barrier shall be placed or recompacted during weather conditions, such as freezing temperatures or rain, that would interfere with adequate compaction or control of moisture content.
ii. Soil material used in the barrier shall be placed in six-inch to eight-inch loose lifts at a moisture content between zero per cent and four per cent above optimum moisture content as determined by standard laboratory proctor.
iii. Compacted soil material used in the barrier shall be tested for density and moisture content at a rate of five tests per acre per lift.
iv. When a density or moisture content test is not conducted in compliance with the approved detailed engineering plans or the terms and conditions of the permit to install, each lift shall be scarified, and the moisture content adjusted and the soils recompacted for the area that extends from the location of the failed test to one-half the distance to the location of the nearest passed test, in all directions. The recompacted area shall then be retested for compliance.
v. The thickness of the recompacted soil barrier shall be a minimum of 12 inches thick.
vi. The recompacted soil barrier shall be adequately protected from damage due to, erosion, desiccation, freeze/thaw cycles, wet/dry cycles, and the intrusion of objects during construction.
vii. Prior to placing geosynthetics on the recompacted soil barrier, the recompacted soil barrier shall be inspected and determined to be free of erosion rills, sharp edged protrusions or any particles protruding more than one quarter of one inch. Ohio EPA shall be notified of this inspection no later than three days in advance of the inspection.

16. The primary geomembrane liner, the primary leak detection witness zone, the secondary geomembrane liner, the secondary witness zone/ venting layer shall be constructed in compliance with the approved detailed engineering plans.

17. Prior to placing the storage ponds into service, the applicant shall demonstrate that the construction associated with the PTI was in accordance with the approved plans and specifications and receive written concurrence from the Ohio EPA Southwest District Office. A Professional Engineer familiar with lagoon and liner construction and design and registered in the State of Ohio shall certify that construction of the ponds was completed in accordance with the approved plans and specifications and provide as-built plans to Ohio EPA.

18. Ohio EPA shall be notified of the construction schedule to allow inspections during the beginning, middle, and end of the pond system construction.

19. Within sixty days of detecting leakage within the primary leak detection witness zone in excess of 500 gallons per acre per day (2,975 gallons per day for pond 1 and 1,180 gallons per day for pond 2) the following activities shall be performed on the primary geomembrane liner: the locations of any holes in the primary geomembrane liner shall be found using an electrical leak location method or other equivalent method, the biosolid/water level in the pond shall be lowered below the level of any holes that were located, and all holes that were located in the primary geomembrane liner shall be repaired.

20. Within sixty days of determining that biosolids contaminants have breached the secondary geomembrane liner the following activities shall be performed on the primary geomembrane liner: the locations of any holes in the primary geomembrane liner shall be found using an electrical leak location method or other equivalent method, the biosolid/water level in the pond shall be lowered below the level of any holes that were located, all holes that were located in the primary geomembrane liner shall be repaired and a preliminary assessment report shall be submitted.

21. Within one hundred and eighty days of determining that biosolids contaminants have breached the secondary geomembrane liner all of the following shall be completed: Perform a hydrogeologic site investigation to evaluate potential impact to the saturated zones beneath the ponds, submit a ground water monitoring plan, and install and sample ground water monitoring wells. All data collected from ground water monitoring wells shall be submitted within 60 days of sampling.

22. Sampling and analysis of water samples collected from the witness zones and perimeter drains should be performed in accordance with Chapters 10 and 12 of Ohio EPA's "Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring."

23. Within ninety days from the issuance date of this permit, prepare and submit for Ohio EPA acceptance, a written plan to document sampling, analyses and evaluation procedures for witness zone and perimeter drain sampling in accordance with Chapter 10 of Ohio EPA's "Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring."

24. This permit does not increase the approved average daily hydraulic feed rate of no more than 45,000 gallons for the Dovetail Energy, LLC anaerobic digestion facility.

25. The storage of class B biosolids and operation of the Dovetail Energy Storage Ponds shall not result in the generation of a nuisance odor, as determined by Ohio EPA. Should a nuisance odor be generated by storage of biosolids in the ponds or operation of the ponds after implementation of the Odor Management/Mitigation Plan, all necessary corrective actions shall be immediately implemented to alleviate the odor. Installation of appropriate odor control equipment, to eliminate or minimize the creation of such nuisance odors shall be implemented in accordance with an approved PTI.

26. The owner and operator shall minimize the generation and impact of odors to the extent practicable including scheduling events that may generate additional odors to avoid peak residential outdoor times and during times that wind direction is away from the majority of neighbors, maintaining the ponds to reduce the effects of seasonal turnover, maintaining the windbreak/shelterbelt in accordance with NRCS 380, and performing daily odor inspections.

27. All storage, transfer, and beneficial use of class B biosolids shall comply with Chapter 6111 of the Ohio Revised Code, Chapter 3745-40 of the Ohio Administrative Code, and the Dovetail Energy, LLC NPDES permit.

28. The volume of material within the Dovetail Energy Ponds shall not exceed 23,961,556 gallons in Pond 1 and 8,302,610 gallons in Pond 2 for a total of 32,264,166 gallons.

29. The storage levels of the Dovetail Energy Storage Ponds shall not exceed the approved maximum operating level for each pond. Both ponds shall have a minimum 1.0-foot freeboard after accounting for the 100-year, 24-hour rain event. Both ponds shall be equipped with a level marker that clearly indicates the 1.0-foot freeboard level and maximum operating level. Ohio EPA shall be notified when the operating level of either pond is within 6 inches of the maximum operating level. Actions shall be taken to ensure that the maximum operating level is not exceeded.

Ohio Environmental Protection Agency

Division of Surface Water
Response to Comments

Project: Dovetail Energy LLC Permit-to-Install Application
Ohio EPA Permit to Install application #: 1289642

Agency Contacts for this Project

Division Contact: Ned Sarle, (937) 285-6096
Ned.Sarle@epa.ohio.gov

Betsy VanWormer, (614) 644-2150
Betsy.Vanwormer@epa.ohio.gov

Public Involvement Coordinator: Heather Lauer, (614) 644-2160
Heather.Lauer@epa.ohio.gov

Ohio EPA held a public hearing on June 27, 2019, regarding the Dovetail Energy LLC Permit-to-Install application for two new biosolids storage ponds. This document summarizes the comments and questions received at the public hearing or submitted during the associated comment period which ended on July 3, 2019.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

Comment 1: **A resident is concerned about the threat this proposed storage facility might pose to residential drinking water wells and general ground water quality.**

Response 1: The facility is proposing to install a dual liner system with three levels of leak detection (primary witness zone, secondary witness zone, and perimeter drain). The purpose of the perimeter drain is to direct ground water away from the liner system, but it can also be utilized to capture releases in the event the dual liner system is compromised.

The facility is proposing to monitor the leak detection zones by performing visual inspections of the primary and secondary witness zones on a weekly basis for the life of the facility, sampling the liquids (if present) in the primary and secondary witness zones on a quarterly basis, and sampling

the liquid in the perimeter drain on a quarterly basis for two years and a semi-annual basis after two years. Ohio EPA will be notified of a leak within 48 hours of detection. As proposed, the results of the monitoring would be provided to Ohio EPA in semi-annual detection monitoring reports. The reports would be evaluated to confirm the proposed ponds are not a threat to the private water wells and ground water quality in the area.

Comment 2: **Ohio EPA should consider having the facility locate these storage ponds in another location that is not as geologically sensitive.**

Response 2: Ohio EPA cannot dictate where treatment facilities are built. The Agency can only ensure that proposed wastewater treatment systems comply with the necessary permitting requirements.

Comment 3: **Odors are already a problem with the existing facility. Individuals are concerned that the two proposed storage ponds will make odors worse for this area. How will odors be controlled and monitored so that it doesn't drift to nearby residents? What precautions will be taken to eliminate and mitigate odors generated by the ponds? We propose that smell monitors be installed and connected to a feedback system that will reduce the smell when an unacceptable smell level is reached.**

Response 3: The permit-to-install (PTI) application for the proposed ponds includes an odor mitigation plan. Items included in the plan for odor control include: (1) a windbreak/shelter break established in accordance with Natural Resources Conservation Service (NRCS) Code 380; (2) adhering to the required Ohio EPA setback from residences; (3) incorporating engineering components into the design and operation protocols to minimize odor generation; and (4) regular odor observations by facility personnel.

The pending Dovetail Energy National Pollutant Discharge Elimination System (NPDES) permit renewal will include more stringent limits related to the stability of the biosolids generated by the facility to reduce the odiferous compounds that may be present in the biosolids.

Currently, Ohio EPA does not plan to require odor monitoring devices. Ohio EPA will continue to perform site

visits to evaluate odors. If the visits verify nuisance odors occurring off the site of the ponds, then Ohio EPA would take further action. Nuisance odors generated by the proposed storage ponds would be a violation of the PTI and NPDES permit and would be subject to enforcement.

Comment 4: **A resident was concerned about the threat to public health from air releases from the proposed two storage ponds.**

Response 4: Biosolids being proposed to be stored in the two storage ponds are the same as the biosolids currently being stored in the existing concrete storage tank. Ponds and storage tanks for storing biosolids have not been found to be a threat to public health due to typical air releases.

Comment 5: **Which government entity addresses air quality and have they been informed of this proposed project?**

Response 5: The Regional Air Pollution Control Agency (RAPCA) has regulatory authority over facilities in Greene County. RAPCA is aware of this proposed project.

Comment 6: **The Ohio Valley area is a well-known and studied karst formation area. Already identified and catalogued karst formations are dotted in the vicinity of the proposed facility expansion. Visual signs of sink holes are apparent in the immediate area surrounding the proposed facility. On what grounds does Ohio EPA find the location of large industrial liquid waste ponds, with or without liners, appropriate for this setting?**

Response 6: Ohio EPA acknowledges the potential for karst to the west, south and east of the proposed ponds. However, based on publicly available information and onsite subsurface investigations, the area immediately beneath the proposed ponds is not considered karst. There are no siting restrictions that prohibit the proposed ponds from being located above or near a potential karst area.

The PTI application proposes additional engineering controls, specifically a dual liner system with leak detection, to ensure that the contents do not leave the ponds.

Comment 7: **In the proposed permit, on page 3, section 16, it is stated that a hydrological site report is submitted, yet on**

page 11, section 9, the company has not gone so far as to initiate a hydrological study to insure no threat of direct communication with the aquifer. In the interest of public water safety, not only the threat to the sole source aquifer directly below the proposed location, but also the threat to many shallow private wells nearby, will Ohio EPA advise and then require a full hydrological study due to the known nature of the surrounding area's geology?

Response 7: The permit application was updated to state a hydrogeologic study was not performed. There are no siting restrictions to prohibit the proposed ponds from being located above a sole source aquifer. The facility is proposing to install a dual synthetic liner system with leak detection in lieu of completing a hydrogeologic investigation. The leak detection zones will be monitored on a specified basis to confirm the proposed ponds are not a threat to private water wells.

Comment 8: **On April 17th, 2001, Ohio EPA cited the Pitstick Farm, on which the current Renergy facility sits, with a manure spill which killed almost 10,000 aquatic lifeforms and contaminated 6-7 miles of Hebble Creek which leads to the Hebble Creek Reserve. The proposed site parcel for the facility expansion not only features an existing small pond/wetland on its westerly border, but it also drains to the same headwaters as the Pitstick property. Why does Ohio EPA not see both the existing facility's location, as well as the proposed expansion location as being poorly chosen with regards to the known threat and documented history of this location with regards to protected surface waters?**

Response 8: The proposal meets siting and design requirements. Any site has the potential to impact downstream waters in the event of a spill or accident. It is unclear why the commenter feels this site is particularly vulnerable regarding surface water. The fish kill from the 2001 manure spill was attributed to the strength and volume of the raw manure, not to the site itself.

Comment 9: **Most states rely largely on design engineers to determine the needed measures for protection and many engineers are recommending concrete above-ground storage liners. In Florida, Pennsylvania and Indiana, concrete liners are used at most of the manure storage systems constructed in karst areas. Above-**

ground manure storage is typical in Ohio's karst region. Due to the nature of the region at risk, will Ohio EPA require a more safe and sturdy containment system such as above-ground concrete preferably with a complete cover rather than a simple synthetic liner as is proposed in the permit application?

Response 9: Ohio EPA cannot take other states' requirements into consideration when evaluating a proposed facility in Ohio; the Agency follows Ohio rules and regulations. The PTI application for the storage ponds includes a dual synthetic liner system with a leakage detection system. This design has been determined by Ohio EPA as being protective. It is the same technology used by landfills and facilities for storage of untreated waste to protect ground water. As such, the facility is not being required to construct these storage ponds with concrete. Ohio regulations prohibit nuisance odors but do not require covers.

Comment 10: **What are all the potential risks associated with the biodigester and spreading process?**

Response 10: Regulation-compliant biosolids application as a soil amendment and fertilizer has been practiced for decades with no documented harm to human health or the environment. Potential risks of non-compliant biosolids application are like those associated with manure application including possible increases in disease vectors (flies, birds, rodents) and contamination of ground and surface waters. Additionally, the Clean Water Act requires U.S. EPA to identify emerging pollutants that may be found in biosolids, determine whether pollutants found present risks, and to regulate those pollutants that pose unacceptable risks. U.S. EPA is developing tools needed to perform risk assessments on pollutants found in biosolids. The Biosolids Screening Tool identifies pollutants, pathways (e.g., drinking water ingestion, produce ingestion) and receptors (e.g., adult, child) of greatest interest and informs decisions about the need to perform more refined risk assessments or to address data gaps or uncertainties. Chemicals found in biosolids that do not pass screening will be prioritized and refined risk assessments will be done using a multimedia, multi-pathway, multi-receptor, probabilistic risk assessment (PRA) modeling framework.

Comment 11: **How many permits and of what type will be needed for the facility to operate these additional storage ponds?**

Response 11: An approved PTI is required prior to constructing the two proposed biosolids storage ponds. The NPDES permit issued to Dovetail Energy is under renewal and includes conditions for biosolids treatment and land application. If approved, operational conditions of the lagoons would be included in the NPDES permit.

Comment 12: **How will the surrounding area be protected from pond overflows due to heavy downpours possibly exceeding a 100-year storm?**

Response 12: The proposed storage ponds are designed to contain precipitation exceeding a 100-year storm. Based on the Rainfall Frequency Atlas of the Midwest, a 24-hour, 100-year rain event would be estimated as having 5.7 inches of rain. The facility would be required to maintain a minimum of one foot of freeboard. As such, they would be able to contain this rain event.

Comment 13: **How will the ground water beneath the ponds be protected from leakage? What is the probability of the liners decaying or being damaged by natural seismic activity?**

Response 13: The ground water beneath the storage ponds will be protected by the dual liner and leak detection systems beneath the storage ponds. This liner system is made up of an upper primary engineered liner that serves to keep the biosolids in the pond. Beneath the primary engineered liner is the primary leak detection layer that detects any leakage through the primary liner. A small amount of flow into the leak detection zone is expected to occur. However, if leakage through the upper liner exceeds the design standard based on the *Ten State Standards for Wastewater Treatment* handbook of 500 gallons per acre per day, then the pond will be drained and repaired. Beneath the primary leak detection layer is the secondary engineered liner and the clay liner that serve to protect the ground water beneath the storage pond. Also, beneath the secondary engineered liner is a secondary leak detection layer. If any biosolid contamination is detected in this layer, the pond will be drained and repaired.

Both the primary engineered liner and the secondary engineered liner are made of high-density polyethylene, which is highly resistant to degradation and has a projected life span of hundreds of years.

The liner system of the ponds is designed to be stable and meets Ohio guidelines. The liner systems of the ponds have been determined as stable under the expected seismic activity for the location of the pond.

Comment 14: **Will the increased storage capacity of the ponds allow increased biodigester output? If so, by how much? If output is increased, so will input. How much will truck traffic on Herr Road and Byron Road be increased? How is the incoming waste volume tracked?**

Response 14: The current treatment system is permitted for an average daily intake rate of 45,000 gallons per day (gpd). The PTI application for the storage ponds does not increase the current intake rate of the Dovetail Energy anaerobic digestor. The facility is required to keep track of the material being brought into the facility and to make these records available to Ohio EPA upon request.

Comment 15: **Will any human waste be included in the bio-digesting process? If so, how effective are proposed sterilization processes? We propose that human waste be excluded from the bio-digesting process. Tertiary treatment at wastewater treatment plants is a safer method to prevent human pathogens and medicines from entering our water supply.**

Response 15: The PTI application proposes two biosolids storage ponds and does not propose to change the currently approved feedstock at the Dovetail Energy anerobic digestor.

Dovetail Energy accepts sewage sludge from local municipal wastewater treatment facilities that has already been through primary and secondary wastewater treatment. Sewage sludge is approved for use as a feedstock for anaerobic digestion in Ohio.

Mesophilic anaerobic digestion has been found to remove 94 percent to 99 percent of pathogens and has been determined by U.S. EPA to be an effective process to significantly reduce pathogens to generate Class B biosolids.

Therefore, Ohio EPA does not anticipate excluding the use of sewage sludge as a feedstock for anerobic digestion.

Comment 16: **The citizens of Bath Township, Fairborn and Yellow Springs are essentially guinea pigs given such a small sample size. We walked away with the impression that we are on our own. The panel, which is made up of environmental experts, has placed the burden on the citizens to prove this is harming our health. They asked for our help in providing studies and samples. This included studies pertaining to any type of biological diseases in the pond being transferred to mosquitos and studies pertaining to airborne particulate matter if the pond crust cracks. It's the EPA's job.**

Response 16: Ohio EPA commented during the public hearing that if anyone in attendance had studies we were not aware of, we would appreciate them sharing the information with the Agency the information could be included in our evaluation of the project. Wastewater lagoons that do not have a crust or scum layer on top can increase mosquito populations if not maintained appropriately. The odor mitigation plan submitted in July for this facility indicates a top layer of clean water is planned instead of allowing a crust to form. This water layer is expected to act as a cap for the lagoons to help control odors. Mosquito control, including control of vegetation in and around the lagoons, will be a condition of the approved permit. Given the plan to have a thick water layer instead of a crust on the surface, air particulates are not expected to be an issue.

Comment 17: **I understand that Ohio EPA resources are very limited, but this operation is being conducted on same property that was cited for a 2001 violation also noted on record. Mr. Tom Pitstick still owns that land. He has proven the inability to self-report to Ohio EPA in the past and has not been forthcoming to his neighbors about the operations being constructed on his land. It is obvious this operation needs to be watched closely by experts in the field.**

Response 17: The hog operations owned by Mr. Tom Pitstick are regulated by the Ohio Department of Agriculture (ODA). Questions about hog operation reporting can be directed to ODA. In instances of manure releases to surface waters, Ohio EPA

investigates the incident and coordinates with local partners in mitigating the impact of the manure release.

Inspections of Dovetail Energy are discussed in Response 22.

Comment 18: **Pearl's Fen is on the west side of Byron Road in Bath Township. The proposed site is on the east side of Byron Road. We've come to understand that the fen is a pristine waterway, and also the headwaters of the Beavercreek Wetlands. In addition, a portion of the largest aquifer east of the Mississippi is under the proposed site of the biosolids ponds. Has a hydrological study been commissioned in conjunction with the proposed site?**

Response 18: The PTI application contains a dual synthetic liner with a leak detection system. Ohio EPA has determined that because of the additional engineering controls and monitoring will be conducted immediately adjacent to the potential source, a hydrologic study is not necessary.

Comment 19: **If and when the PTI is issued, will a copy of the permit be available to the public?**

Response 19: Yes. A copy of the final PTI will be available online in Ohio EPA's eDocument system: https://epa.ohio.gov/dir/publicrecords#lt-112012639-edocument-search

Comment 20: **The facility should be required to upgrade to comply with Class A biosolids regulations.**

Response 20: Ohio EPA does not have the authority to require the facility to upgrade to Class A Exceptional Quality (EQ) biosolids. However, on Sept. 26, 2018, Ohio EPA approved a PTI for Dovetail Energy to upgrade to EQ biosolids. The facility has 18 months to begin installation of the approved upgrade project or request an extension of up to 12 months. The facility currently complies with their permit and the regulations to generate Class B biosolids.

Comment 21: **The facility should be required to cover the two proposed storage ponds and the existing concrete storage tank.**

Response 21: Ohio EPA regulations currently do not require these storage facilities be covered.

Comment 22: **What is the process for scheduling inspections at the digester and the proposed ponds? Is there an inspection protocol for these inspections, and if so, can these be provided? Is there a public location to read about all previous inspections at this site?**

Response 22: Inspections of the facility may occur as the result of complaints, permit renewals or routine compliance checkups. These inspections may be either announced or unannounced. The basis of these inspections is to evaluate whether the facility is complying with Ohio EPA regulations as well as its approved permit. These permits and our rules and regulations are available on our website. All site inspection reports sent to the facility are available on Ohio EPA's eDocuments system. A compliance evaluation inspection template is used for these types of inspections and is available upon request. See response 19 for more information about how to access the eDocument system.

Comment 23: **Is there a public record documenting Per- and Polyfluoroalkyl Substances (PFAS) levels in the soil where the biosolids from this site are spread? Is there a baseline PFAS level on the ground at the facility site? Are there baseline PFAS levels on the aquifer? Please provide.**

Response 23: There are no data documenting PFAS in soils or ground water at biosolids application sites in Ohio.

Comment 24: **Is there a public record of historical water testing results at this site?**

Response 24: Ohio EPA is not aware of any ground water sampling results for this site.

Comment 25: **Is there a plan in place for remediation if there's a problem at this facility?**

Response 25: The PTI application contains a contingency plan that describes how the facility will address situations such as when excessive leakage is documented. In addition to the leak detection monitoring, the facility has prepared a required contingency plan to address the repair of leaks in

the primary and/or secondary liners. If a leak is detected in the secondary liner, the facility would be required to perform a hydrogeologic site investigation to evaluate the impact to ground water and surrounding drinking water wells. The investigation would be required to include the installation and sampling of monitoring wells and the sampling of drinking water wells within 1,000 feet upgradient and 2,000 feet downgradient of the proposed ponds.

Comment 26: **Is there a master list of all these sites (digesters and ponds) in Ohio and a master list of inspection findings?**

Response 26: The anaerobic digestion facilities and anaerobic digester storage ponds in Ohio are as follows:

Anaerobic Digestion Facilities
Zanesville Energy, LLC
Dovetail Energy, LLC
Haviland Energy, LLC
Collinwood BioEnergy, LLC
Lime Lakes Energy, LLC
Three Creek BioEnergy, LLC
Buckeye Biogas, LLC
Central Ohio BioEnergy, LLC
Emerald BioEnergy, LLC

Co-Digestion Facilities
Eastern Ohio Regional Wastewater Authority
Lucas County WRRF
City of Wooster WRRF

Anaerobic Digestion Storage Ponds
Young Storage Pond (PTI Approved 2/28/19)
Dovetail Energy, LLC (PTI under review)
Haviland Energy, LLC (existing & PTI under review)
Buckeye BioGas, LLC (Wiles Pond)
Emerald BioEnergy, LLC

Inspection reports for these facilities can be found in Ohio EPA's eDocoument System:
http://edocpub.epa.ohio.gov/publicportal/edochome.aspx

Comment 27: **We were told that issues have never been identified in similar projects before. But, when asked how many similar projects there are in the state, we were told there**

is just one other similar pond with one other under construction. That's not a proper data set.

Response 27: See Response No. 25 for the most updated list of anaerobic digestion facilities and associated storage in Ohio. Regardless of the number of similar treatment systems, the proposed biosolids storage ponds comply with our permitting requirements and, if operated in compliance with their permits and applicable rules, should be protective of human health and the environment.

Comment 28: **What qualifications/certifications does an inspector need to have at these facilities? How many inspectors are covering this site?**

Response 28: Currently, two Ohio EPA employees have been assigned to this facility. Ohio EPA has a program for training these site inspectors.

Comment 29: **If there's a problem at the facility due to a failure, is the public notified? Does the operator and the landowner have to maintain an adequate amount of insurance to assure complete cleanup if something goes wrong?**

Response 29: Public notifications are not required; however, the company must inform Ohio EPA of any system failures and the township trustees must be informed prior to any activity that is likely to generate odor. The facility is not required to post a bond or to maintain insurance for the lagoons. However, the lagoons would need to be properly closed in accordance with Ohio regulations if no longer used.

Comment 30: **What are the rules for the land application of the biosolids?**

Response 30: The beneficial use of biosolids is regulated by Ohio Administrative Code (OAC 3745-40). Ohio's sewage sludge rules are modeled after Title 40 of the Code of Federal Regulations Part 503 (40CFR503) and in some cases are more stringent than the federal regulations. Briefly, OAC 3745-40 requires specific treatment technologies and limits be met prior to land application and sets site restrictions for land application that include applying nutrients at the correct rate for crop needs; soil monitoring; no land application on frozen or snow-covered ground or during precipitation events; isolation distances from surface waters, wells and

homes; and harvesting restrictions. OAC 3745-40 should be consulted for a complete list of requirements to land apply biosolids.

Comment 31: **How is this process monitored and are the monitoring records available?**

Response 31: The anaerobic digestion facility has been issued an NPDES permit addressing the biosolids being land applied. This permit requires the facility to monitor its treatment system and to submit monthly electronic Discharge Monitoring Reports (eDMRs). These monthly reports are available to the public if requested from Ohio EPA.

Comment 32: **Sensors should be placed below the liner to measure any leakage and in this case the sensor could even have online recording of that data.**

Response 32: The facility is proposing to monitor the leak detection zones by performing visual inspections of the primary and secondary witness zones on a weekly basis for the life of the facility, sampling the liquids (if present) in the primary and secondary witness zones on a quarterly basis, and sampling the liquid in the perimeter drain on a quarterly basis for two years and a semi-annual basis after two years. Ohio EPA will be notified of a leak within 48 hours of detection. As proposed, the results of the monitoring would be provided to Ohio EPA in semi-annual detection monitoring reports. The reports would be evaluated to confirm the proposed ponds are not a threat to private water wells and ground water quality in the area.

Any leakage from the secondary engineered liner and any consolidation water from the clay liner will be collected by the secondary leak detection layer. This water will be tested to determine if it contains contaminants from the biosolids storage ponds. A report summarizing the analysis will be kept on file by Dovetail Energy, and, if any contaminants are identified, the report will be sent to Ohio EPA within five days. A report summarizing all the data collected from the secondary and primary leak detection layers will be submitted to Ohio EPA on a semi- annual basis. These reports will be available in Ohio EPA's eDocument System at http://edocpub.epa.ohio.gov/publicportal/edochome.aspx.

Comment 33: **How often will sludge from the ponds be removed? Where will the sludge go? We propose, one, that if sludge is used in land application, it be sterilized to the extent that the conversion of soils to organic farming specifications not be impacted. That's a very important part of the land in the areas that can be used for organic producing.**

Response 33: Biosolids from the proposed ponds will be removed on an as-needed basis as weather and crop rotations allow. Dovetail Energy currently has approximately 2,300 acres of land that is authorized for the beneficial use of biosolids. Biosolids will be applied in accordance with OAC 3745-40 (see Response 30). The land currently authorized for the beneficial use of biosolids is used for feed crops. If the farmer chooses to seek an organic designation for the crop, the nutrient needs will be met and necessary changes to the site authorization will be made accordingly.

Comment 34: **Will the construction of the ponds influence the ground water supply to nearby residents, the wetland on this property and Pearl's Fen? We propose that a simulation model of the ground water flow beneath the ponds be developed to assure that ground water will not be diverted or reduced during the construction.**

Response 34: Based on topographic surfaces and the subsurface investigations performed onsite, the proposed construction depths are expected to be at or above the water table. Therefore, we do not expect the construction or operation of the proposed ponds to impact water supply for the nearby wells or Pearl's Fen. Ground water is only proposed to be diverted in the immediate vicinity of the ponds to ensure proper performance of the liner system.

Comment 35: **Issued in November 2018, your own white paper says they are unable to assess the impact of hundreds of unregulated pollutants in land-applied biosolids on human health and the environment; unable to assess the impact of hundreds of unregulated pollutants. So, the question is, does Ohio EPA usually move forward on projects that they are unable to assess?**

Response 35: The PTI application proposes two biosolids storage ponds and does not propose to change the method in which that material is ultimately utilized. Currently, material that

Dovetail Energy accepts and processes through their anaerobic digester is land applied. The approval or denial of the PTI application does not have an impact on that practice.

Note that biosolids are not industrial waste, they are primarily nutrient-laden materials that add beneficial properties to agricultural lands. In addition, the white paper referenced above was produced by the United States Office of Inspector General (OIG) and was not produced by Ohio EPA. U.S. EPA is working to address concerns raised in the OIG report. Ohio EPA's biosolids rules can be found at OAC 3745-40 and include the limits that U.S. EPA has found to be appropriate based on risk assessments to date.

Comment 36: **The Federal EPA Inspector General (IG) Report 19-P-0002 states: "The EPA's controls over the land application of sewage sludge (biosolids) were incomplete or had weaknesses and may not fully protect human health and the environment."**

This admission by the IG should give your office pause, it should raise red flags. The panel's observed indifference to this report speaks volumes. I cannot think of any other regulatory body that would follow through with such an operation with such little data. This is coming from an engineer who has worked risk management with the FAA while serving in the Air Force. When a report like the one the IG released comes out in other industries, planes are grounded, construction stops, operations at the very least are paused. Why isn't the Ohio EPA exercising maximum caution? The potential environmental impact to our sole source aquifer would be catastrophic.

Response 36: Please see Response 35.

In addition, the PTI application contains construction techniques, engineering controls, and monitoring protocols that Ohio EPA determined reduces the likelihood of material that would be contained in the ponds from reaching the ground water.

U.S. EPA is actively working with the Inspector General to address the OIG report recommendations. Please see Appendix D of the draft OIG report:

www.epa.gov/sites/production/files/2018-11/documents/ epaoig 20181115-19-p-0002.pdf.

Ohio EPA is keeping apprised of the U.S. EPA responses to the OIG report and will follow U.S. EPA's lead if changes to the biosolids regulations are made or additional sampling is required based on the research and risk assessments.

Comment 37: **Could the karst features cause damage to the dual synthetic liner system?**

Response 37: Karst features would not pose a threat to the proposed liner system. Karst is not expected to be present at the location of the lagoons.

Comment 38: **Who will oversee or monitor the project from start to finish?**

Response 38: The applicant is required to oversee the construction to ensure that the storage ponds are constructed as permitted by Ohio EPA. Their professional engineer will regularly be on-site overseeing construction of the ponds. Ohio EPA may also conduct periodic site inspections during this construction process and will review the facility's documentation to ensure proper construction. The professional engineer will certify the construction was in accordance with the approved plans and the PTI at the completion of the project.

Comment 39: **What impact would occur if these storage ponds leaked?**

Response 39: If the proposed ponds leaked, we would expect ground water quality in the area to be impacted. The biggest impacts would most likely be in the areas to the north and west of the proposed ponds based on the expected ground water flow direction in the area.

To prevent impacts to ground water, the facility is proposing to install a dual liner system which includes two synthetic liners, a bottom clay layer, and three levels of leak detection (primary witness zone, secondary witness zone, and perimeter drain). The liner system is designed to detect and capture releases in both the primary and secondary liners. The surrounding perimeter drain is also designed to not only

divert ground water away from the pond but to also detect and help capture contaminants leaving the secondary liner.

The facility is proposing to monitor the leak detection zones by performing visual inspections of the primary and secondary witness zones on a weekly basis, sampling the liquids (if present) in the primary and secondary witness zones on a quarterly basis, and sampling the liquid in the perimeter drain on a quarterly basis for two years and a semi-annual basis after two years. Ohio EPA will be notified of a leak within 48 hours of detection. The results of the monitoring will be provided to Ohio EPA in semi-annual detection monitoring reports.

In addition to the leak detection monitoring, the facility has prepared a required contingency plan to address the repair of leaks in the primary and/or secondary liners. If a leak is detected in the secondary liner, the facility would be required to perform a hydrogeologic site investigation to evaluate the impact to ground water and surrounding drinking water wells. The investigation would be required to include the installation and sampling of monitoring wells and the sampling of drinking water wells within 1,000 feet upgradient and 2,000 feet downgradient of the proposed ponds.

Comment 40: **There are public waters contact within 500 yards of the suggested location, for drinking intake, recreation (wading), and biological -- Hebble Creek Reserve -- which, as you must know, has been affected in the past (2001 mass aquatic kill) by the farmer on whose land Renergy already currently operates.**

Response 40: The monitoring system of the lagoons will alert officials should a leak occur. The time of travel of a leak is slow enough that abatement measures would be put in place well before any of the nearby private wells would be impacted; public wells and intakes are more than two miles away from the proposed site.

Comment 41: **We'd like drinking water source protection from the county. What about our wells? What about the aquifer in general?**

Response 41: Ohio EPA regulates drinking water source protection for public drinking water wells. Proposed pond siting criteria for similar types of structures require distances between 50 feet (OAC 901:10-2-02) and 300 feet (OAC 3745-42-13) from a

private drinking water well. We have not identified any private drinking water wells within 300 feet of the proposed ponds.

Comment 42: **I would like to have Ohio EPA consider requiring essential ground water monitoring system for the operations that are being proposed. Also, two monitor wells at several depths should be installed with water quality parameters being measured in real-time. This includes the wells at the western parcel boundary to assure Pearl's Fen is not impacted.**

Response 42: The PTI application contains construction techniques, engineering controls, and monitoring protocols that Ohio EPA determined reduces the likelihood of material that would be contained in the ponds from reaching ground water. The facility is proposing to install a dual synthetic liner system with leak detection in lieu of implementing a ground water monitoring program. The leak detection zones will be monitored on a specified basis to confirm the proposed ponds are not impacting ground water quality. We expect the proposed leak detection monitoring system would identify potential contaminants prior to a release to ground water and allow appropriate actions to be taken to prevent a release. This monitoring, immediately adjacent to the potential source, would detect a leak before it could be detected by a ground water monitoring system.

Comment 43: **What purpose would Ohio EPA have to meet with a former lobbyist, now private contractor, regarding this project? What scientific purpose does Ohio EPA Southwest District Office have meeting with lobbyists?**

Response 43: Companies that engage with Ohio EPA often employ individuals or hire firms that have non-scientific roles. Examples of these could be attorneys, public relations, media specialists or education experts. In the specific situation cited by the commenter, the individual had been hired to assist the applicant on public relations. This individual was attempting to organize a meeting, on behalf of the applicant, with Ohio EPA regarding a PTI application that was under review. Ohio EPA Southwest District staff did not meet with this individual.

Comment 44: **What studies can Ohio EPA point to pertaining to vector-borne diseases with a focus on mosquitoes, in**

and around these types of ponds, as well as the areas of standing water in and around fields treated with the byproducts of this type of biodigester, pertaining to the infection of mosquito populations of any disease, as well as the transmission or spread of diseases to humans and animals?

Response 44: Mosquitoes as disease vectors are well documented in literature. Treatment lagoons are a method used to treat waste and to reduce disease transmission from untreated sewage. Biosolids storage lagoons store material that has been specifically treated to reduce pathogens and to reduce its attractiveness to vectors. Ohio EPA is not aware of any studies that indicate such lagoons provide disease to the vector itself. It should be noted that wastewater treatment lagoons are very common and are not known to be associated with vector diseases. Lagoons that do not have a crust can provide conditions that increase the mosquito population if not managed appropriately. Conditions to control mosquitos would be required as part of the permit should it be approved.

Comment 45: **Can Ohio EPA point to any long-term studies 5, 10, 20, 30 year studies of the results in and around these types of storage of any positive or negative impact of the ponds, their contents or the byproducts thereof, to the environment and the welfare of the animal and civilian populations around them?**

Response 45: Wastewater treatment and storage lagoons are prevalent world-wide. Improperly designed, installed or maintained lagoons can have negative environmental impacts. Dual liner and leak detection systems are a proven ground water protection technology in Ohio and the world. A professional engineer familiar with these systems will need to certify installation should the permit be approved. If ground water impacts are documented, Ohio EPA would require the facility to act to remediate any impacts.

End of Response to Comments